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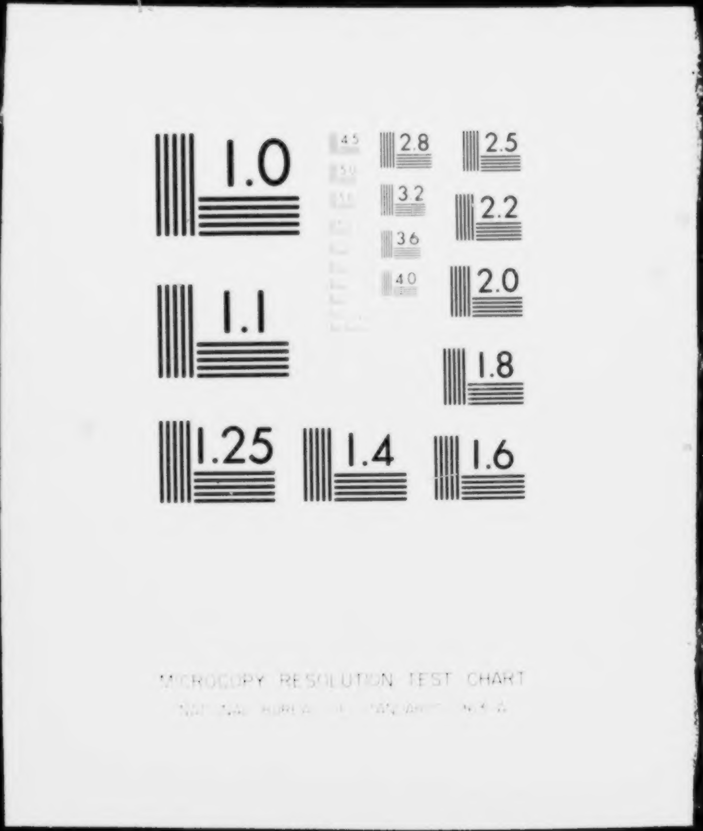
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ABSTRACT

The Seminar was organized by the United Nations Industrial Development Organization (UNIDO) to bring together policy-making officials to determine the most efficient way of organizing the flow of industrial information and its application for the acceleration of the industrialization of developing countries. Background papers including the actual status of industrial services in the Department of Economic Affairs of the United Nations (ECA) and Economic Commission for Asia and the Far East (ECAFE) regions, and industrial information services in industrialized countries and organizations, and three policy documents on the main issues for establishing and operating industrial information services, were prepared. Topics discussed included information systems flow, feedback, staff, scope, service-charges, feasibility studies, use of mass media and computers, sharing information, role of the government and the information centers, and cooperation and mutual assistance between developing countries and relevant international organizations. A bibliography of 17 documents and background papers is appended. (AB)

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PART I

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PREFACE

The Seminar on Industrial Information which was held in Tehran from 14 to 25 September 1970 happily coincided with the commencement of the thirtieth year of the reign of His Imperial Majesty Mohammad Reza Pahlavi, Aryamehr Shahanshah of Iran. On this significant occasion, the meeting unanimously adopted the proposal of the participants from the United Arab Republic that a message of congratulations be addressed to His Imperial Majesty. Both the text of the message and His Imperial Majesty's gracious reply are reproduced in Annex 4 of this report.

The Seminar was organized by UNIDO for the purpose of bringing together policy-making officials to determine the most efficient way of organizing the flow of industrial information and its application for the acceleration of the industrialization of developing countries.

Invitations were sent to the governments of all UNIDO member countries in the ECA and ECAFE regions. Twenty-four experts representing 18 governments from the two continents participated at the meeting, in addition to a broad range of high officials and executives of trade associations and industrial organizations.

Comprehensive documentation was prepared for the Seminar. This included papers on the actual status of industrial information services in the ECA and ECAFE regions (country reports and the papers prepared by UNIDO experts Messrs. Ahmed and Kartsev); reports on industrial information services in industrialized countries and industrial organizations (surveys by UNIDO experts Messrs. Halang and Lossev and a paper by UNESCO); and three policy documents on the main issues to be considered by countries when establishing and operating industrial information services (the UNIDO monograph on "Industrial Information" and papers by Mrs. Levai and Mr. Schwoerbel). In addition, a number of background papers were provided by UNIDO (for list of documents, see Annex 3).

At the request of the participants, the Chairman of the Seminar expressed warm appreciation to the experts and the Secretariat of UNIDO for the high quality of the documentation prepared for the Seminar.

The highlights of the Seminar consisted of the presentation of the country reports and the discussion of the main issues which emerged from the expert papers and the policy documents submitted by the Secretariat. The programme also provided for visits by the participants to local industrial documentation centres and services, such as Technolog and the Documentation Centre of Iran (for details of the programme, see Annex 2).

On behalf of the Government of Iran, the Chairman would like to take this opportunity to thank the participants and the Secretariat of UNIDO for their kind words of appreciation regarding the facilities provided by the host country.

Abbas Ordoobadi

Abbas Ordoobadi
Chairman of the Seminar

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I. INTRODUCTION: Definition of industrial information and recognition of its importance

It is generally recognized that the improvement of living standards of developing countries depends on industrialization. Generally speaking, an increase in economic growth is obtained by continuously applying new knowledge, new ideas, new processes and products. In developing economies, industrial activity depends as much on creating new knowledge, as on adopting or adapting the expertise and information already accumulated in the industrialized countries.

For the purpose of this Seminar, industrial information is defined as: "Those specific items of scientific, technical and economic knowledge which can be communicated and applied in order to facilitate and accelerate the process of industrial growth".

In both industrialized and developing countries it is necessary for techno-economic studies to be carried out before new industries are established. Feasibility studies and investment promotion may then be assumed to be part of industrial information.

Once the industry has been established, production and management are the main areas of activity, so that industrial information will cover actual production and maintenance, financing, marketing, productivity, labour relations, etc. Research and development will play an important part in information as soon as the higher levels of industrialization have been reached.

In the definition of industrial information given above, the fact that it is not enough for knowledge to be generated, but that it must then be communicated and put to practical application has been recognized.

The most common media of communication at present are printed material, microphotos and films, but it is increasingly acknowledged that other media play an important part, for example, audio-visual means, including radio, television and technical films, and above all personal contacts, for example, visits of field personnel, workshops, conferences, etc.

Recognizing the importance of industrial information for developing countries, the Seminar was concerned with pinpointing the principle requirements of industrial information services and integrated information systems. The requirements may differ from country to country, depending on the prevailing level of industrialization and the political, economic and social structure.

After it had been established that the items set out in Annex 3 constitute the main areas of contention, after ample discussion the delegates formulated a number of recommendations which are listed in the body of this report.

II. MAIN ISSUES OF THE DISCUSSION:

1. Easy flow of industrial information: unrestricted access to information material already available and recognition of the principle of reciprocity.

It is recognized that the flow of industrial information between countries is often obstructed by barriers such as industrial competition and language differences. The most important of these barriers is perhaps the general lack of adequate knowledge - especially among developing countries - of the existence of industrial information and of the means of acquiring it for immediate practical utilization. Inside a given country, obstruction of the easy flow may occur, due to competition between companies or even between government departments, or due to the existence of communication gaps between the centres which possess industrial information and the enterprises which could take advantage of it. Some differences of opinion were expressed during the Seminar discussions regarding the many ways in which an unhampered flow of information may be supplied by one country to another. The participants agreed on the general principle expressed in the following recommendation:

> "Governments of industrialized and developing countries are requested to take pertinent measures for the removal of any barriers which obstruct the easy flow of information internationally, as well as within countries".

2. Industrial Property: promotion of measures facilitating the use of proprietary information and the reduction of financial burdens.

Industrial know-how and scientific, technical and economic information, while among the most important prerequisites for the industrialization of developing countries, are often extremely costly due to the protection of industrial property under national legislation and international agreements. The Seminar participants expressed their deep concern that such heavy financial burdens are at present involved in the transfer of industrial know-how and the acquisition of products **highly** priced because of royalty payments as a result of industrial property rights detained by private corporations.

While realizing that the existing legislation makes immediate liberalization difficult, the participants felt that energetic efforts are required in order to improve the situation. The following recommendations were approved:

> "Governments of industrialized and developing countries are requested to take steps to make patent rights and processing rights more readily available and to reduce the costs involved in industrial property transfer, particularly for the small- and medium-sized industrial enterprise.
>
> "It is recommended that, in collaboration with industrialized countries which have the proper facilities for patent searching, UNIDO should examine ways and means of extending such facilities free of charge or at reduced rates to developing countries".

3. Pooling information and sharing facilities among developing countries: regional information and documentation centres and the creation or reinforcement of specialized centres covering the main branches of industry.

It is obvious that the cost of providing industrial information would be diminished if a number of countries co-operated in establishing or maintaining only one facility which could be used by several countries. The discussion showed that participants were more interested in specialized services dealing with industrial branches in heavy-, medium- and small-scale industry, than in regional institutes covering the whole area of scientific and technical information. Cement, jute, rubber, textile and rice processing were among the industrial branches mentioned in this connection. The following recommendation was approved:

> "Governments of developing countries are requested to take the initiative, with the assistance of UNIDO, towards the establishment or reinforcement of specialized information and documentation centres for industrial branches in different countries. The services of these branch information centres would be used by countries regionally as well as inter-regionally to serve the whole developing world".

4. The role of governments in organizing and ensuring the provision of adequate information to their national industries.

Scientific, technical and economic information is at present collected and disseminated by governmental, semi-governmental and private organizations. In recognition of the increasing importance and complexity of information supply systems and the resulting large expenditures, the role of governments in the supply and dissemination of industrial information has been under review in many industrialized countries lately. A substantial increase of government responsibilities in the area of industrial information was the result of these reviews.

There was general agreement among the participants that both the public and the private sectors have their place in the collection and dissemination of scientific, technical and economic information. At the same time it was recognized that governments should assume the role of promoters and co-ordinators of the various industrial information activities. Reference was made to pertinent parts of UNIDO Monograph No. 13 (page 18, paragraphs 5 and 6) "Industrial Information" and the participants endorsed the statement that:

> "Governments must accept responsibility for the transfer of information to industry in developing areas to the same degree and in the same spirit that they accept responsibility for economic development itself. Accordingly, Governments in developing countries should assume responsibility for the establishment and operation of effective local information transfer services. When setting up or reinforcing these services, the authorities should ensure that information activities are organized or co-ordinated centrally in order to make the maximum use of all local information resources, while catering for needs of every type of industrial consumer in the country".

5. Choice of the appropriate institutional arrangement to ensure the effective provision of industrial information throughout a country. Designation of National Clearing Houses for industrial information and their association with existing institutions such as ministries of planning and industry, management and productivity centres, chambers of commerce and industry, statistical offices, investment promotion centres, industrial research institutes, standard institutes and documentation centres.

The functions and attributions of a clearing house were extensively discussed. It was pointed out that a clearing house could either act as a national switch-board, directing inquiries to the various sources of industrial information in the country, or as the co-ordinating and main reference centre serving a group of or even all developing countries in a particular branch of industry. National clearing-houses for industrial information, which should ideally be attached to the ministry of industry, do not necessarily require an extensive documentation centre of their own. In general, however, the administrative structure and size of a given country would determine which, if any, of the existing institutions should be designated for this function. The national clearing-house should not take over the functions carried out at present by existing bodies, but associate and activate their resources into a concerted national programme.

A comprehensive register of local sources of information would constitute the main tool of each clearing-house and, as part of its co-ordinating role, it would also perform the function of identifying uncovered subject fields and major shortcomings in the national information system.

The importance of providing a direct, comprehensive and rapid service to the inquirer was stressed. Objections were raised regarding the long delay involved in channelling inquiries through unnecessary intermediaries and regarding the bare guiding function of the clearing-house, i.e., the transfer of inquiries to other institutions.

In conclusion, participants endorsed the recommendation that:

> "National authorities should, as soon as possible, designate a single National Clearing-House which would be responsible for ensuring that industry be provided with the information it requires, making use of all accessible

local and international sources of information".

6. Role of Scientific and Technical Documentation Centres in the collection, processing and dissemination of industrial information.

"Documentation Centres" and "Information Services" have historically developed along different lines since each type of service has put the emphasis on different aspects of the information process.

Recognizing the intrinsic differences between, on the one hand, documentation centres which collect and handle documents and, on the other hand, industrial information services which do not necessarily concern themselves with the handling of documents but without question need them, the following recommendation was approved:

> "Scientific and technical documentation centres, constituting a basic prerequisite for the industrial information process, should be strengthened and should become more user-oriented. In order to meet the needs of the industrial user, they should give priority to establishing a system of selective dissemination of information and to collecting and processing industrial feasibility studies and technical assistance reports".

7. Feasibility studies and investment promotion: the role of industrial information services.

Developing countries need to identify feasible industrial projects and to ensure their rapid assessment through feasibility studies. Investment promotion is an important aspect of the same activity, i.e. the establishment of new industrial enterprises. It was recognized that these activities form part of the provision of information for industry. However, more often than not, national information services cannot take on this work, particularly the preparation of feasibility studies which is very costly and time consuming and requires special teams to conduct them. While a large enterprise has the means to pay for these facilities, the small industrialist is at a disadvantage, since he cannot afford the high consulting fees which this work entails. There was a consensus of opinion that investment promotion falls within the scope of comprehensive industrial information services, but it was recognized that new services might not be in a position to encompass this activity. The following recommendation was approved:

> "Industrial information services should concern themselves with the provision of feasibility studies to industry as well as with investment promotion and should make feasibility studies selectively available to the small industrialist, either free of charge or for a nominal fee".

8. Scope of industrial information services in developing countries: should they serve small- and medium-sized enterprises or extend their coverage to the industrial sector as a whole?

While it was generally recognized that industrial information services should serve the industrial sector as a whole, some participants expressed their preference for national services primarily designed to provide techno-economic information to small- and medium-sized enterprises.

With particular reference to feasibility studies, the role of independent consulting firms was emphasized and attention was drawn to the financial implications of consultancy contracts which were often too heavy for a small-or medium-sized enterprise.

Other participants stressed the importance of an integrated approach to industrial development and its information requirements.

In conclusion, the view was endorsed that national industrial information services should, as a rule, give priority to the information needs of small- and medium-sized enterprises which cannot afford to acquire techno-economic information by themselves. Due regard should, however, be given to the overall requirements of the industrial sector of the country as a whole.

9. Staff of industrial information services: its status, selection and training.

It has been observed that in developing countries the status of industrial information officers often does not reflect their importance to the economy of the country. The comparatively low salaries offered to industrial information officers make it difficult to attract competent personnel. Improvement in this situation is hampered by the fact that where industrial information officers are government employees, it is difficult, if not impossible, to change their salaries because of the general salary structure of the civil service. The discussion revealed that the situation is much better in industrialized countries where salaries are, on the whole, at a par with those of scientists, if lagging somewhat behind salaries in industry. It may,therefore, be worthwhile to consider attaching industrial information services to semi-governmental organizations in certain countries.

In most countries, the education of industrial information officers consists of a university degree followed by extensive experience in industry. In special cases and in some countries, technical or economic university degrees may not be required for certain aspects of industrial information work, for example, in certain extension services and in clearing-house functions. When selecting industrial information officers, it is important to look for the right personal attitude in addition to formal education.

The following recommendation was approved:

> "Governments of developing countries should recognize and give credit to the importance of industrial information with respect to the economic development of the country. This recognition should be reflected in the compensation offered to personnel of industrial information services, including facilities and incentives, commensurate with their value to the economy and comparable to those of their counterparts in industry. In addition, well planned, up-to-date programmes for training of industrial information officers should be conducted on the national, regional and international levels."

10. The provision of industrial information free of charge or against payment.

The meeting agreed that, with regard to payment for industrial information, a distinction had to be made between the supply of information on the international and on the national levels.

As to international exchange of information, reference was made to bilateral agreements for the exchange of technical know-how on a reciprocal basis and to the increasing value of industrial development experience which is being made available by developing countries to industrialized countries.

With regard to the provision of information at the national level, consideration was given to the psychological effects of providing information free to industrialists who sometimes do not value material which they obtain free of charge. It was also mentioned that the introduction of cost/benefit principles into industrial information services might be instrumental in making them more efficient and businesslike.

However, the majority of participants strongly emphasized the promotional character of information, particularly in the initial stages of industrial development, and requested that the responsibility for the supply of information to industry be accepted by governments as a public service responsibility, similar to the provision of the infrastructure, education, etc. Exemptions to this approach were recommended only for the provision of services which are relatively costly and require the input of a substantial amount of professional manpower, such as feasibility or marketing studies. Large private industrial enterprises should, in particular, continue to depend on commercial consulting companies for the preparation of such studies.

The following recommendation was adopted:

> "Governments of developing countries are requested to make industrial information material accessible to national industry free of charge."

11. Follow-up of information provided and feed-back: evaluation of results and continuous improvement of industrial information services.

The discussion on the question of follow-up and feed-back of industrial information revealed that industrial information organizations invariably consider follow-up to be most important for evaluating their performance and for making improvements where needed. Unfortunately budgetary restrictions often make complete follow-up difficult.

As far as developing countries are concerned, it was pointed out that they cannot afford the repetition of mistakes and that consequently feed-back is most important. UNIDO needs feed-back to become fully aware of the situation in and problems encountered by its member countries.

The following recommendation was approved:

> "Follow-up of industrial information work and feed-back of information is recognized to be highly desirable, if not essential. Industrial information organizations should, therefore, institute follow-up procedures and plan for them from the outset when establishing new services."

12. Use of mass media to promote awareness of industrial information needs and available facilities among industrialists and to disseminate technical information.

Mass media may be used for the transfer of information to industry, as well as for the purpose of publicizing local information facilities. Daily or weekly newspapers, specialized journals and radio and television could be used for this purpose, as well as for increasing the awareness of the public in general and the industrialist in particular of industrial progress and new technology.

In the information process itself, it has been customary to use mostly written or printed material, but other media should also be considered, such as audio-visual means and personal contacts.

The discussion mainly dealt with movie films on technical subjects. The consensus of opinion was that industrial films should be screened by UNIDO with regard to their technical content and their usefulness for developing countries.

The success of mobile units for displaying various technical and economic subjects by bringing the material directly to the user was also mentioned.

The following recommendations were approved:

I. "National Industrial Information should make use of mass media to promote awareness of their need for information among industrialists, as well as to publicize locally available industrial information and documentation facilities. Mass media should also be used to disseminate technical information in a form which appeals to the general public and to encourage its application."

II. "UNIDO is requested to obtain and view existing industrial films and screen those which are deemed suitable so far as their technical content is concerned, keeping the needs of developing countries in mind."

III. It is recommended that UNIDO, in co-operation with UNESCO and other relevant international organizations, examines the possibility of launching a programme to increase the supply of industrial journalists with a view to promoting the presentation of scientific and technological subjects in a language understandable to the layman."

13. The use of computers for the storage and processing of industrial data and documents: state of the art and future prospects.

Computers are increasingly being considered as a tool for the storage and retrieval of large quantities of industrial data and documents. However, the economics of using computers are often debated, in view of the large expenditure involved in purchasing or renting them and in their operation and maintenance.

The discussion brought out that most developing countries do not question the use of the computer per se, but are concerned to know at what stage of development of an industrial information service a computer becomes necessary and/or economic.

The UNIDO experts pointed to the infrastructure needed for the successful operation of computers. Specialists, such as systems analysts, programmers and computer technicians, are required. The general scarcity of such specialists in industrialized as well as in developing countries calls for the timely provision of education and training in developing countries. Basic computer concepts should be introduced in primary and secondary schools, and pertinent education provided in technical schools and universities. This is to be supplemented by on-the-job training courses.

It was pointed out that several developing countries already have computers for solving various government problems, such as planning, for statistical purposes, etc. In such cases, depending on the nature of existing facilities, it may be feasible to use these computers for information work. The following recommendation was approved:

I. "National Industrial Information Services should, with the assistance of UNIDO, evaluate the effectiveness of current training schemes on the use of computers for

> industrial information and documentation and, if necessary, supplement these training schemes with its own expertise".

> II. "UNIDO should conduct a feasibility study on the use of computers for industrial information in developing countries and should subsequently organize a seminar to discuss and study computer problems".

> III. "UNIDO should provide continuous advice to developing countries on the selection and use of computers for processing information".

14. Co-operation and mutual assistance among developing countries.

The meeting stressed the importance and particular value of the experience acquired in the more advanced developing countries for the development of new industry and called for an increased exchange of knowledge and skills between developing countries, in the following terms:

> "UNIDO is requested to organize fellowships in, and study missions to, well-established industrial information services in industrialized countries as well as in developing areas, since the approach adopted and the problems solved by these services is of special value when setting up new services in countries facing similar conditions".

15. The assistance of industrialized countries in the provision of information material and training opportunities.

Participants reiterated their request to industrialized countries to facilitate free access to the entire fund of industrial literature, data, know-how and feasibility studies accumulated by industrialized nations. In this connection, emphasis was placed on the necessity of reducing the financial barriers now hampering the transfer of patents, know-how and products as a result of industrial property legislation. The following recommendation was approved:

> "Governments of industrialized countries and UNIDO are requested to examine the present mechanism for the transfer of proprietary and other industrial information and to take effective steps to improve this mechanism".

> "Governments of industrialized countries are further requested to provide an increased number of training opportunities for industrial information and documentation officers from developing areas".

16. The assistance of UNIDO and other relevant international organizations in the sphere of industrial information: provision of liaison, information material, equipment, experts, fellowships and other opportunities for staff upgrading, in particular training courses and study missions to well-established industrial information and extension services in industrialized as well as in developing countries.

Participants took note of the various types of technical and other assistance at present extended by UNIDO to developing countries (meetings, expert assignments and fellowships under

UN/Regional Programmes, UNDP/TA and SIS, institution building under UNDP/SF) as well as of the possibilities to obtain some equipment for information services through the Trust Fund for Voluntary Contributions to UNIDO.

The following specific recommendations were made towards the practical implementation and expansion of UNIDO's assistance:

1. "UNIDO is requested, in co-operation with UNESCO and other relevant international organizations, to develop a model description of effective industrial information services, together with job descriptions of the personnel required, and to make this material available to developing countries in the form of a comprehensive manual".

2. "UNIDO should, in co-operation with UNESCO, endeavour to finance the acquisition of industrial literature, pamphlets and documents of initial help in the establishment of new, and strengthening of existing, industrial information services in developing countries".

3. "UNIDO should organize missions of study teams to well-established industrial information, promotion and extension services in developing countries as well as in industrialized countries".

4. "In co-operation with international liaison services for industrial information, UNIDO should establish lists of addresses of the main sources (centres, institutes, agencies) of industrial information in each developing country

and make these lists available".

5. "UNIDO should examine the possibility of issuing a liaison bulletin for industrial information services in developing areas to promote co-operation, exchange of information material and cross-fertilization of experience".

6. "UNIDO should make a feasibility study on the choice and use of computers by industrial information and documentation services with emphasis on the question of the stage at which their use becomes economically feasible".

7. "UNIDO should organize a seminar on the use of computers by industrial information and documentation services in developing areas".

8. "UNIDO should make available its country studies on the present status of local industrial information facilities and their capacity to meet existing needs".

9. "UNIDO should initiate the building up of a bank of industrial patents which can be made freely available to developing countries".

10. "UNIDO should ensure the linkage of developing countries to the existing international networks of industrial information (UN, OECD, etc.) so that they can make full use of the information and data communicated in these

networks".

11. "UNIDO should help in the acquisition of industrial films and projection equipment to promote the use of this medium in developing countries".

12. "UNESCO is requested, in co-operation with the International Federation of Documentation (FID), to examine ways and means for facilitating the full participation of developing countries in the work of FID, for example, by holding more meetings in developing areas and by subsidizing travel costs for participants from developing countries".

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COUNTRY	NAME AND FUNCTION	OFFICE ADDRESS	HOME ADDRESS
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IV. TIMETABLE OF THE SEMINAR

DATE	MORNING 9.oo	AFTERNOON 15.oo	EVENING 18.oo
Mon. 14/9	Opening Session	Working Paper No.2 Doc.No. ID/WG.77/5	
Tues.15/9	Country Reports: Sudan, Uganda,Nigeria	Country Report: Ethiopia Doc.No. ID/WG.77/8	
Wed. 16/9	Doc.No. ID/WG.77/7 Parts I and II Country Reports: U.A.R., Turkey	Country Reports: India, China, Hong Kong Malaysia, Pakistan	
Thur.17/9	Country Reports: Indonesia, Iran, Philippines, Singapore, Afghanistan, Thailand	Free	
Fri. 18/9	Working Paper No. 1 Doc.No.ID/WG.61/DP.4 6/2B.39/13 UNIDO Monograph	Free	
Sat. 19/9	Visit: National Library Irandoc	Visit: Industrial Development and Renovation Organization	Cocktails in the UNDP Office
Sun. 20/9	Working Paper No. 1 Doc.No. ID/WG.61/DP.4 UNIDO Monograph 6/2B/39/13	Visit: ARJ (refrigeration plant) Iran National (truck factory)	Visit: Government Handicrafts Shop
Mon. 21/9	Discussion of the framework of the Report: main issues	Doc.No.ID/WG.77/6 Note on UNIDO activities	
Tues.22/9	Discussion of main policy issues	Free (drafting of Final Report)	Reception given by the Chairman of the Seminar
Wed. 23/9	Free (drafting of Final Report)	Adoption of Final Report	Opera:Flying Dutchman
Thur.24/9	Adoption of Final Report	Crown Jewels Bashagh Jafari	
Fri. 25/9	Closing Session		

V . LIST OF DOCUMENTS

1.	Provisional Annotated Agenda	(ID/WG.77/1)
2.	List of Participants	(ID/WG.77/2)
3.	Note for Participants	(ID/WG.77/3)
4.	Provisional List of Documents	(ID/WG.77/4)
5.	Industrial Information Services in Asia and the Far East - Munir-ud-Din Ahmed, Director, Documentation Centre for Contemporary Middle East, Deutsches Orient-Institut	(ID/WG.77/5)
6.	Research and Information Services in some African Countries: a Discussion Paper - Y. Kartsev, Industry Department, ECA.	(Working Paper No.II)
7.	Information and Documentation Services for Industry in CMEA Member Countries - K. Lossev, Head of Department, Institute of Scientific and Technical Information of the Academy of Sciences of the USSR (VINITI)	(ID/WG.77/7 Part I)
8.	Information and Documentation for Industry in OECD Member Countries and in some Latin American Countries - K. Lossev, VINITI.	(ID/WG.77/7 Part II)
9.	Industrial Information Services in Industrialized Countries (outside the COMECON Area) and Co-operation between such Services and their Counterparts in Developing Countries - F.G. Halang, National Research Council of Canada.	(ID/WG.77/8)
10.	Information and Documentation Services and their Part in International Co-operation - UNESCO	

11. Observations on Industrial Information for Developing Countries: a Discussion Paper - H. Schwoerbel, Assistant to the Director, Industrial Services and Institutions Division, UNIDO. (Working Paper No. I)

12. Establishment of Industrial Information Services in Developing Countries - Mrs. Susan Lévai, General Director, TECHNOINFORM, Hungarian Central Technical Library and Documentation Centre (OMKDK). (ID/WG.61/DP.4)

13. Industrial Information. Monograph No. 13 in the series: UNIDO Monographs on Industrial Development - Industrialization of Developing Countries: Problems and Prospects. (E.69.II.B.39,Vol.13)

BACKGROUND PAPERS:

13.* Guide for an Introductory Course on Informatics/Documentation - Parts I and II A.I. Mikhailov and R.S. Giljarevskij, VINITI, USSR.

14. UNIDO Programme of Work for 1971, Group 9: Industrial Information (ID/B/64/Add.9)

15. Outline of Programme of Work for 1972, Group 9: Industrial Information (ID/B/69)

16. Seminar on Government Responsibilities for Information in Industry, Note by the Secretariat (DAS/STINFO/70.10) Organization for Economic Co-operation and Development.

17. Seminar on Government Responsibilities for Information in Industry, Programme of the Seminar. Organization for Economic Co-operation and Development.

*) The Guide was prepared for the UNIDO/UNESCO Inter-regional Training Course for Industrial Documentalists and Information Officers, Moscow, USSR, 28 September - 23 December 1970.

VI. TELEGRAM OF CONGRATULATIONS

to

His Imperial Majesty
Mohammad Reza Pahlavi
Shahanshah Arya Mehr

WE RESPECTFULLY REQUEST YOUR MAJESTY TO ACCEPT OUR FELICITATIONS AND CONGRATULATIONS ON THE OCCASION OF THE COMMENCEMENT OF THE 30TH YEAR OF YOUR MAJESTYS ASCENDANCE TO THE THRONE STOP A DAY WHICH SYMBOLIZES YOUR MAJESTYS EARNEST DEDICATION OF THREE DECADES TO RAISE THE LEVEL OF YOUR PEOPLE TO A HIGH STANDARD STOP WE WISH YOUR MAJESTY AND THE ROYAL FAMILY A LONG AND PROSPEROUS LIFE SO THAT YOUR PEOPLE MAY CONTINUE TO PROGRESS UNDER YOUR LEADERSHIP STOP

AND SIGNED

SAMER	OF AFGHANISTAN	AHMED	OF PAKISTAN
WONG	OF CHINA	CHAWLA	OF PAKISTAN
SIRAK	OF ETHIOPIA	BACUNGAN	OF PHILIPPINES
CHAN	OF HONGKONG	QUINIQUINI	OF PHILIPPINES
CHAN SIU-KAM	OF HONGKONG	MENG	OF SINGAPORE
VERMA	OF INDIA	IDRIS	OF SUDAN DEM.REP.
GOENADI	OF INDONESIA	MUSIGCHAI	OF THAILAND
HARJATMO	OF INDONESIA	VICHIT-VADAKAN	OF THAILAND
BIGLARPOUR	OF IRAN	KAGAR	OF TURKEY
RASSEKH	OF IRAN	KURTUL	OF TURKEY
OJAGHIAN	OF IRAN	EL SHAMAA	OF U.A.R.
ABU KASSIM	OF MALAYSIA	ZAGHLA	OF U.A.R.
SAYENJU	OF NEPAL	KOTECHA	OF UGANDA
OGUNDIPE	OF NIGERIA		

CHAIRMAN OF THE SEMINAR:	ORDOOBADI ABBAS OF IRAN
UNIDO EXPERTS:	AHMED
	HALANG
	KARTSEV
	LOSSEV
UNIDO OFFICIALS:	EINHAUS
	PAVLOV

HIS IMPERIAL MAJESTY'S ANSWER

CHAIRMAN OF UNIDO SEMINAR
MESSRS. EINHAUS AND PAVLOV

"HIS IMPERIAL MAJESTY THE SHAHANSHAH ARYAMEHR IS GRACIOUSLY PLEASED TO COMMAND ME TO EXPRESS HIS HIGH APPRECIATION OF THE KIND FELICITATIONS AND FRIENDLY SENTIMENTS WHICH YOU AND ALL THE PARTICIPANTS AT THE UNIDO SEMINAR HAVE CONVEYED ON THE OCCASION OF THE COMMENCEMENT OF THE 30TH YEAR OF MY AUGUST SOVEREIGN'S REIGN. HIS IMPERIAL MAJESTY HAS FURTHER COMMANDED TO CONVEY HIS BEST WISHES FOR YOUR HAPPINESS AND THAT OF YOUR COLLEAGUES AS WELL AS FOR THE SUCCESS OF THE SEMINAR. WITH WARM REGARDS".

NOSRATOLLAH MOINIAN PRIVATE SECRETARY OF HIS
IMPERIAL MAJESTY THE SHAHANSHAH ARYAMEHR

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Distr.
LIMITED

ID/WG.77/1
4 September 1970

ORIGINAL: ENGLISH

United Nations Industrial Development Organization

Seminar on Industrial Information
(for the ECAFE and ECA regions)

Tehran, Iran, 14 - 25 September 1970

PROVISIONAL ANNOTATED AGENDA

Organized in co-operation with the Iranian Government

id.70-4879

I THE ROLE OF SCIENTIFIC AND TECHNICAL INFORMATION IN INDUSTRIAL DEVELOPMENT.

Documents:

1.	Monograph No. 12	Industrialization of Developing Countries: Problems and Prospects - Industrial Information
2.	Working Paper No. 1	Observations on Industrial Information for Developing Countries: A Discussion Paper - H. Schwoerbel
3.	ID/WG.77/6	Information and Documentation Services and their Part in International Co-operation - prepared by UNESCO
4.	ID/WG.61/DP.4	Establishment of Industrial Information Services in Developing Countries - Mrs. G. Lévai
5.		Guide for an Introductory Course on Informatics/Documentation - A.I. Mikhailov and R.S. Giljarevskij

1. The first item on the Agenda will seek to determine the role of an "Industrial Information Service", that is an organization which provides industry with various scientific, technological, economic and business management information, including data on the properties, processing of materials and on new techniques, as well as on results of scientific research and development which apply to industrial production.

2. The importance of disseminating technological innovations in developing countries and of the adaptation of existing and new technology to the particular conditions in developing countries of the ECAFE and ECA regions will be discussed.

3. The seminar will further examine various aspects connected with industrial information services in ECAFE and ECA regions and ways and means of improving their effectiveness, including action through regional and international organizations.

4. Few, if any, enterprises in developing countries can individually provide the scientific and technical information required for their successful operation. The average enterprise is likely to be small and unable to provide a special unit for such services as for example: engineering advice, market research, feasibility studies, the collection, processing and distribution of published literature and practical data, etc.

5. Consequently, the present state of information systems for industry and the role of "national technical information services" and government responsibilities in providing information for industry will be subjects for discussion at the seminar.

6. Developing countries need scientific and industrial information systems geared to the characteristics, capabilities and location

of producers and users. Their internal national systems must not only be effectively linked with information networks of industrialized countries. During the seminar participants will discuss existing systems of of collection, processing and distribution of industrial information by advanced and developing countries, by regions, and by international organizations. This should result in a better understanding of the organizational structure of information centres, evaluating, selecting, transferring and digesting industrial information is required for local needs.

II PRACTICAL USE OF THE FLOW OF EXPERTISE AND INDUSTRIAL INFORMATION IN DEVELOPING COUNTRIES

Documents:

1.	Monograph No. 13	Industrialization of Developing Countries: Problems and Prospects - Industrial Information
2.	Working Paper No. 1	Observations on Industrial for Developing Countries: A Discussion Paper - H. Schwoerbel
3.	Working Paper No. 2	Research and Information Services in some African Countries: A Discussion Paper - Y. Kartsev
4.	ID/WG.77/5	Industrial Information Services in Asia and the Far East - Munir Din Ahmed
5.	ID/WG.77/6	Information and Documentation Services and their Part in International Co-operation - prepared by UNESCO
6.	ID/WG.77/7 Part I	Information and Documentation Services for Industry in CMEA Member Countries - K. Lossev
7.	ID/WG.77/7 Part II	Information and Documentation Services for Industry in OECD Member Countries and in some Latin American Countries - K. Lossev
8.	ID/WG.77/8	Industrial Information Services in Industrialized Countries (outside the COMECON Area) and Co-operation between such Services and their Counterparts in Developing Countries - F.G. Halang
9.	ID/WG.61/DP.4	Establishment of Industrial Information Services in Developing Countries - Mrs. S. Lévai
10.		Guide for an Introductory Course on Informatics/Documentation, Parts I and II - A.I. Mikhailov and R.S. Giljarevskij

Activities in the field of industrial information are directed towards accelerating the flow of expertise and useful industrial information to developing areas; drawing on both the industrial know-how of advanced, as well as on the newly acquired experience of developing countries. In order to put this available knowledge and experience to practical use particular attention is paid to marshalling and disseminating the fund of industrial knowledge already acquired and recorded. The seminar will consider the following points:

1. Basic concepts and terminology and an introduction to the importance of industrial and trade information. Interdependence of scientific, technological and economic information.

2. Industrial information material

   (a) Informative sources on industrial techniques and processes, including know-how and management data (handbooks, reference books, periodicals, manuals, etc. guides to information and professional organizations);
   (b) Sources of information on industrial equipment, various products, firms, etc. (directories, export guides, repertoires, trade and firm literature, catalogues, etc.)
   (c) Published literature covering general topics (books, journals, pamphlets, government publications, patents, reports, etc.);
   (d) Internally prepared practical data or written material (research and progress reports dealing with experience of enterprises: institutes, laboratories, specific unpublished material, etc.);
   (e) Audio-visual material;
   (f) Knowledge and experience of scientific and technical experts.

3. Methodological features of information.

   (a) Treatment and use of specialized sources and special types of material (reports, patents, standards, etc.);
   (b) Acquisition, collection and registering of various information sources for immediate retrieval;
   (c) Handling and recording inquiries, investigation of the users needs;
   (d) Active dissemination of industrial information (selection of material, methods of ratification, use of various reproduction methods);
   (e) Organization of industrial information extension services;
   (f) Physical layout of services and equipment;
   (g) New trends and techniques in the organization of industrial information systems.

III ORGANIZATIONAL ASPECTS AND PROBLEMS

Documents:

1. Monograph No. 13	Industrialization of Developing Countries: Problems and Prospects: Industrial Information
2. Working Paper No. 1	Observations on Industrial Information for Developing Countries: A Discussion Paper - H. Schwoerbel
3. Working Paper No. 2	Industrial Information Services in some African Countries: A Discussion Paper Y. Kartsev
4. ID/WG.77/5	Industrial Information Services in Asia and the Far East - Munir Din Ahmed
5. ID/WG.77/6	Information and Documentation Services and their Part in International Co-operation - prepared by UNESCO
6. ID/WG.77/7 Part I	Information and Documentation Services for Industry in CMEA Member Countries - K. Lossev
7. ID/WG.77/7 Part II	Information and Documentation Services in Industrialized Countries in OECD Member Countries and in some Latin American Countries - K. Lossev
8 ID/WG.77/8	Industrial Information Services in Industrialized Countries (outside the COMECON Area) and Co-operation between such Services and their Counterparts in Developing Countries - F.C. Halang
9. DAS/STINFO/70.10 Jouy-en-Josas Programme	OECD Documents for the Seminar: Government Responsibilities within the Field of Information for Industry.
10.	Guide for an Introductory Course on Informatics/Documentation - A.I. Mikhailov and R.S. Giljarevskij
11.	Reports submitted from Participants concerning their country's experiences in the organization and administration of one or more industrial information services

The acceleration of industrial development is dependent to a considerable degree on the availability of a variety of supporting services (such as information services), whose effectiveness in turn depends on the local institutional infrastructure providing these services.

It is often necessary to set up special agencies to provide the required industrial services. This depends, partly, on the type of the local economic system. These agencies may be governmental, non-governmental, or jointly sponsored. The experiences of developing countries in setting up industrial information centres, as well as specific examples taken from country reports and discussion papers submitted by participants and UNIDO's secretariat will be reviewed. Also, the comparative effectiveness of centralized versus decentralized institutional approaches will be examined.

(a) Role of public and private sectors and their relationships in the provision of industrial information services

Certain industrial services can only be provided by the government, others by the organized private sector, such as professional associations, or a combination of the two. The role of each sector and existing systems of collection, processing and distribution of technical and industrial information (scientific, technical and research libraries, industrial organizations, academic institutions, professional associations, research institutes, government bureaux or other services) will be identified and discussed.

The need for co-operation between the public and private sectors in an undertaking of such complex proportions is readily apparent in order to avoid efforts being duplicated. Co-operation in establishing and maintaining adequate channels of communications between the various entities dealing with these common problems is vital. The seminar will examine a number of such channels currently in use, as well as, other aspects of public and private relationships in some countries as reported in country reports and background papers.

(b) Organizational factors and functions of agencies involved in industrial development

The technical services are activities or programmes designed to enable business and industry to acquire and use scientific and engineering information more effectively, through the following means:

1. Analyzing problems of regions and industries to determine new opportunities of applying technology;
2. Preparing and disseminating technical reports, abstracts, computer tapes, microfilm, review and similar scientific and engineering information, including the establishment of state or regional technical information centres for such purposes;
3. Providing a reference service to identify sources of engineering and scientific expertise. Any technical information service for industry in a specific country or region should therefore attempt to establish instruction courses and instruction booklets for firms on where to obtain and how to use technical information seen against the local background;
4. Sponsoring industrial workshops, seminars, training programmes, extension courses, demonstrations and field visits which are designed to encourage the effective application of scientific and engineering information.

(c) Financial policies

In order to function with some success, an industrial information service must be assured of a reasonable degree of financial support. Policies for their financing must take into account not only the immediate, but also the long-range financial needs. Some agencies (or centres) subsist on an annual budgetary grant and subsidies from the Government, others on a self-generated income, but mostly they use both. The following points will be considered:

(a) The system of annual budgetary appropriations and how this effects institutional long-range planning;
(b) Provision of long-term capital for expansion of services;
(c) Whether or not certain services should be paid for by those industries that utilize them.

(d) Problems of co-ordination and co-operation

It frequently happens that a number of information offices have joint or interlocking responsibilities in a certain area of activity. In such cases it is not unusual to find these offices adopting divergent approaches to the same problem with resultant dissipation of energy and resources. The seminar will discuss the mechanism for co-ordination between the different agencies in regard to similar or related services.

Possible co-operation of existing information centres in ECAFE and ECA countries in order to foster exchange of industrial information is also a problem of practical improvement of information services in developing countries.

IV BILATERAL AID AND UNITED NATIONS TECHNICAL ASSISTANCE

Documents:

1. Monograph No. 13	Industrialization of Developing Countries: Problems and Prospects - Industrial Information
2. Working Paper No. 1	Observations on Industrial Information for Developing Countries: A Discussion Paper - H. Schwoerbel
3. ID/WG.77/6	Information and Documentation and their Part in International Co-operation - prepared by UNESCO
4. ID/WG.77/8	Industrial Information Services in Industrialized Countries (outside the COMECON Area) and Co-operation between such Services and their Counterparts in Developing Countries - F.G. Halang
5. ID/B.64/Add. [illegible]	Work Programme for 1971 including Report of the Activities for 1969 and Updating of [illegible] 1970 Programme, Part 2, Group 9: Industrial Information
6. ID/B/69	Outline of the 197[illegible] Work Programme of UNIDO

7. Reports submitted from Participants concerning their country's experiences in the organization and administration of one or more industrial information services

A number of developing countries have received technical assistance from some developed and perhaps from other developing countries in organizing their industrial information centres. Specific examples from some countries will be examined.

The United Nations Industrial Development Organization (UNIDO) has been active in the field of industrial information for developing countries. The UNIDO Industrial Information Service provides practical assistance to developing countries by answering, without charge, their inquiries on problems of industry. The four components of the service are the following:

1. Industrial Inquiry Service;
2. Advisory Service on the Supply of Industrial Equipment;
3. Industrial Promotion Service
4. Roster of Consultants.

The activities of UNIDO in the domain of information and promotion are accordingly geared towards expanding the flow of information and scientific and technological knowledge from existing resources from all over the world to developing countries in order to accelerate the pace of their industrialization. The role of UNIDO in the field calls for the promotion of the flow of information in two directions: the transfer of know-how from industrialized to developing countries, the communication of information from developing countries on new manufacturing opportunities and industrial products in order to promote the input of resources and to open up potential markets. The dissemination of information on industrial development through periodicals and other publications is an integrated part of UNIDO's activities. The ultimate aim of UNIDO is to ensure that adequate industrial information facilities are available in every developing country. The primary task of UNIDO in the sphere of industrial information is, therefore, to assist developing countries to build up local industrial information services, to train and upgrade their personnel and to promote the continuous flow of industrial information towards and between these services. Ways and means of implementation of this task will be discussed by participants of the seminar.

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The role of other regional and international organizations such as, UNESCO, ECAFE, ECA and the United Nations Economic and Social Office in Beirut, etc. in promoting technical aid to industrial information centres will also be examined.

Eight days will be reserved for discussions of the items outlined in the Provisional Annotated Agenda. In addition, two days will be devoted to visiting information services in Tehran.

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9 September 1970

ORIGINAL: ENGLISH

United Nations Industrial Development Organization

Seminar on Industrial Information
(for the ECAFE and ECA region)

Tehran, Iran, 14 - 25 September 1970

ED048890

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Organized in co-operation with the Iranian Government

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18 August 1970

ORIGINAL: ENGLISH

United Nations Industrial Development Organization

EU048890

Seminar on Industrial Information
(for the ECAFE and ECA regions)

Tehran, Iran, 14 - 25 September 1970

NOTE FOR PARTICIPANTS

Organized in co-operation with the Government of Iran

1. DATES

The Seminar on Industrial Information (for the ECAFE and ECA regions), will be held in Tehran, Iran, from 14 - 25 September 1970.

2. LOCATION

The conference site is the Commercial Centre building in the Asian Fair complex. (Please see the attached map for the exact address).

3. DOCUMENTATION

Copies of the Aide-Memoire and Provisional Annotated Agenda are attached. Additional documentation will be mailed to participants, or distributed at the Workshop.

4. WORKSHOP MANAGEMENT

The Workshop is being organized by the United Nations Industrial Development Organization (UNIDO) in co-operation with the Government of Iran.

UNIDO will designate staff members to service the Seminar.

5. CORRESPONDENCE PROCEDURE

(i) Official correspondence concerning the administration of the Seminar should be addressed to:

Mr. Leif G. Haug
Chief
Section for Inter-regional Projects and Fellowships
Technical Co-operation Division
UNIDO
P.O. Box 707
Vienna, Austria.

(ii) Official correspondence concerning technical matters, such as the documentation of the Seminar, should be addressed to:

Mr. H. Einhaus
Chief
Industrial Information Section
Industrial Services and Institutions Division
UNIDO
P.O. Box 707
Vienna, Austria

The cable address for both addresses is: UNIDO VIENNA (Austria)

(iii) All correspondence to the host authorities as well as participants' personal mail, should be addressed to:

UNIDO Seminar on Industrial Information
C/o Mr. N. Shallon
Resident Representative of the United Nations Development Programme in Iran
P.O. Box 1555
Tehran, Iran

The cable address is : UNDEVPRO TEHRAN (Iran)
The telephone number is: 67 591-5

6. PARTICIPANTS' CONTRIBUTION

Each participant, as mentioned in the Aide-Memoire, is expected to present a paper on his country's experience in the organization and administration of one or more industrial information services. Should participants wish to make this paper available in print prior to their presentation of it, they should arrange to bring 30 copies of the text with them to the Seminar.

7. TRAVEL ARRANGEMENTS

Participants are expected to take the most direct route of travel and are requested to arrange their travel so as to arrive in Tehran on, or as close to, Saturday 13 September 1970 as airline schedules permit, but no later than that date.

It is suggested that participants write to or cable the Resident Representative of the United Nations Development Programme in Iran (at the address given above) detailing date, flight and estimated time of arrival, so that, as far as possible, arrangements can be made to meet them.

8. VISAS AND HEALTH REQUIREMENTS

In preparing for their travel, participants are requested to ascertain from the nearest Iranian diplomatic mission or travel agency, what visa and health requirements exist for citizens of the participant's country wishing to enter Iran. (Participants should also consider health requirements which may be necessary for their route of travel).

Participants are expected to bear any costs involved for visas and vaccinations which they may require.

Participants are recommended to have Typhoid and Cholera vaccinations as well as the required Smallpox.

9. FINANCIAL ARRANGEMENTS

UNIDO will provide:

A. Round trip economy class air transportation between the airport of departure in the home country and Tehran, Iran.

B. A subsistence allowance in the equivalent of $US 21 per day, for the duration of the Seminar.

10 BOARD AND LODGING

The Iranian Government has kindly offered to assist in the reservation of hotel accommodation. Participants wishing to take advantage of this offer should communicate their requirements to the Office of the United Nations Development Programme in Iran which will arrange that participants are informed of reservations made before their departure from their home country. In cases where this is not possible, participant are requested to contact the Office of the United Nations Development Programme on thier arrival in Iran.

11. NEITHER UNIDO NOR THE GOVERNMENT OF IRAN WILL ACCEPT ANY RESPONSIBILITY FOR THE FOLLOWING:

(a) Travel and other costs incurred by dependents who might accompany participants;

(b) Costs incurred by participants with respect to travel and accident insurance, medical bills and hospitalization fees in connection with their attending the Seminar;

(c) Compensation in the event of death or disability of participants in connection with their attending the Seminar;

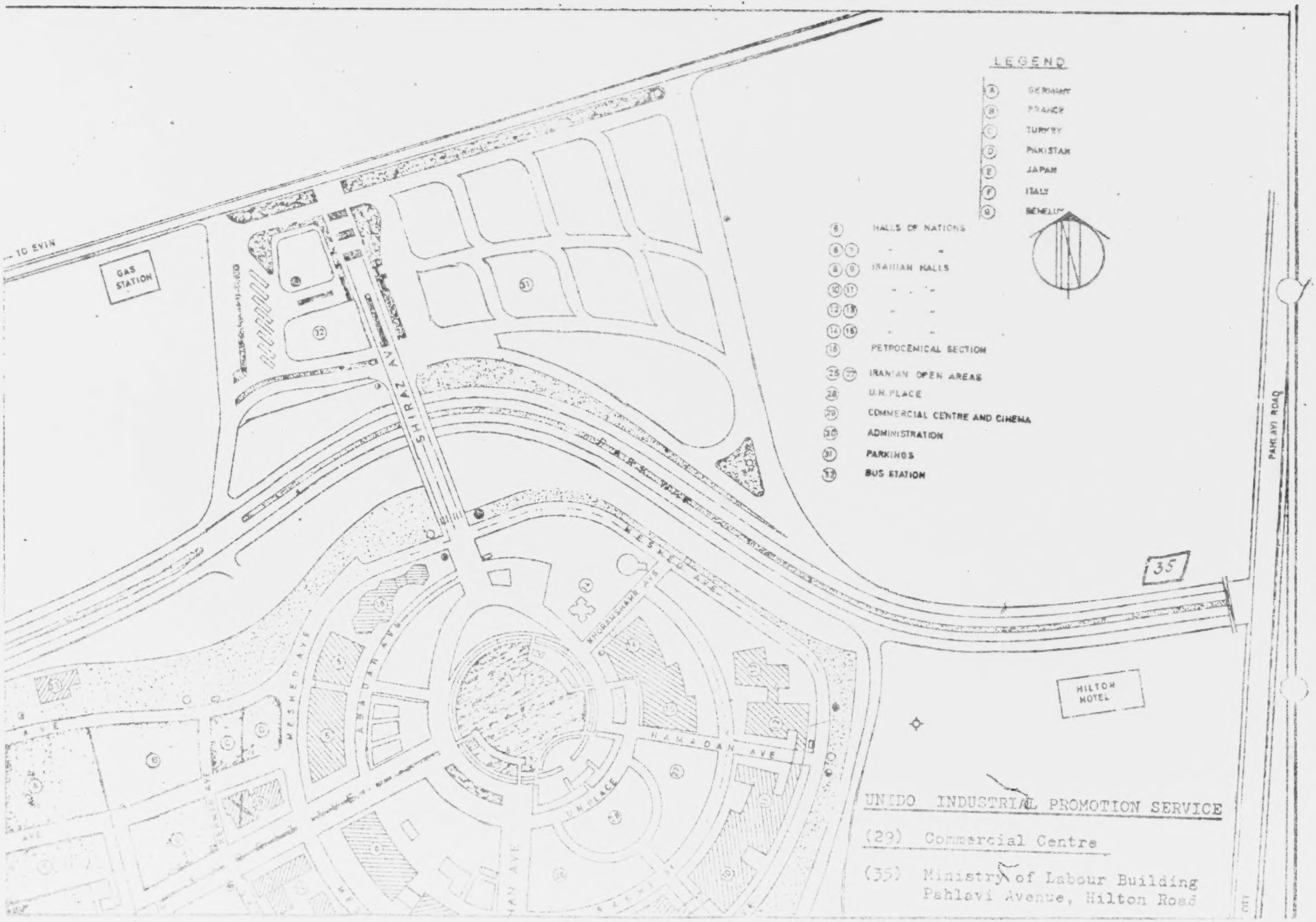
(d) Loss or damage to personal property of participants while attending the Seminar.

12. WEATHER CONDITIONS

September is one of the most pleasant months in which to visit Iran, the weather is mild and the temperature varies between 20 and 30 degrees Centigrade.

13. CURRENCY

1$US is equivalent to approximately 75 Iranian Rials.


LEGEND
(A) GERMANY
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(C) TURKEY
(D) PAKISTAN
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(25) (27) IRANIAN OPEN AREAS
(28) U.N.PLACE
(29) COMMERCIAL CENTRE AND CINEMA
(30) ADMINISTRATION
(31) PARKINGS
(32) BUS STATION
TO EVIN
GAS STATION
SHIRAZ AV
MESHED AVE
KHORAMSHAHR AVE
ABADAN AVE
HAMADAN AVE
U.N.PLACE
KERMAN AVE
PAHLAVI ROAD
HILTON HOTEL
35

UNIDO INDUSTRIAL PROMOTION SERVICE

(29) Commercial Centre

(35) Ministry of Labour Building
Pahlavi Avenue, Hilton Road

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United Nations Industrial Development Organization

Seminar on Industrial Information
(for the ECAFE and ECA regions)

Tehran, Iran, 14 - 25 September 1970

PROVISIONAL LIST OF DOCUMENTS

	Symbol	Title and author
1.	ID/WG.77/1	PROVISIONAL ANNOTATED AGENDA
2.	ID/WG.77/2	LIST OF PARTICIPANTS
3.	ID/WG.77/3	NOTE FOR PARTICIPANTS
4.	ID/WG.77/4	PROVISIONAL LIST OF DOCUMENTS
5.	ID/WG.77/5	INDUSTRIAL INFORMATION SERVICES IN ASIA AND THE FAR EAST - Munir-ud-Din Ahmed, Director, Documentation Centre for Contemporary Middle East, Deutsche Orient-Institut.
6.	ID/WG.77/6	INFORMATION AND DOCUMENTATION SERVICES AND THEIR PART IN INTERNATIONAL CO-OPERATION - contributed by UNESCO.
7.	ID/WG.77/7 Part I	INFORMATION AND DOCUMENTATION SERVICES FOR INDUSTRY IN CMEA MEMBER COUNTRIES - K. Lossev, Head of Department, Institute of Scientific and Technical Information of the Academy of Sciences of the USSR (VINITI)
8.	ID/WG.77/7 Part II	INFORMATION AND DOCUMENTATION FOR INDUSTRY IN OECD MEMBER COUNTRIES AND IN SOME LATIN AMERICAN COUNTRIES - K. Lossev, VINITI.
9.	ID/WG.77/8	INDUSTRIAL INFORMATION SERVICES IN INDUSTRIALIZED COUNTRIES (OUTSIDE THE COMECON AREA) AND CO-PERATION BETWEEN SUCH SERVICES AND THEIR COUNTER-PARTS IN DEVELOPING COUNTRIES - F.G. Halang, National Research Council of Canada.

10.	Working Paper No. I	OBSERVATIONS ON INDUSTRIAL INFORMATION FOR DEVELOPING COUNTRIES: A DISCUSSION PAPER - H. Schwoerbel, Assistant to the Director, Industrial Services and Institutions Division, UNIDO.
11.	Working Paper No. II	RESEARCH AND INFORMATION SERVICES IN SOME AFRICAN COUNTRIES: A DISCUSSION PAPER - Y. Kartsev, Industry Department, ECA.
12.*	ID/WG.61/DP.4	ESTABLISHMENT OF INDUSTRIAL INFORMATION SERVICES IN DEVELOPING COUNTRIES - Mrs. Susan Lévai, General Director, TECHNOINFORM, Hungarian Central Technical Library and Documentation Centre (OMKDK).
13.**	GUIDE FOR AN INTRODUCTORY COURSE ON INFORMATICS/DOCUMENTATION - PART I - A.I. Mikhailov and R.S. Giljarevskij, VINITI, USSR.	
14.**	GUIDE FOR AN INTRODUCTORY COURSE ON INFORMATICS/DOCUMENTATION - PART II - A.I. Mikhailov and R.S. Giljarevskij, VINITI, USSR.	
15.***	ID/B/64/Add.9)	PROGRAMME OF WORK FOR 1971 INCLUDING REPORT OF ACTIVITIES FOR 1969 AND UPDATING OF 1970 PROGRAMME, PART TWO, GROUP 9: INDUSTRIAL INFORMATION.
16.		
16.	ID/B/69	OUTLINE OF THE 1972 WORK PROGRAMME OF UNIDO.
17.	6 /2B/39/13	UNIDO MONOGRAPHS ON INDUSTRIAL DEVELOPMENT INDUSTRIALIZATION OF DEVELOPING COUNTRIES: PROBLEMS AND PROSPECTS - MONOGRAPH No. 13 INDUSTRIAL INFORMATION
18.****	DAS/STINFO/70.10.	NOTE BY THE SECRETARIAT
19.****	Jouy-en-Josas Programme	PROGRAMME OF THE SEMINAR

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* This report by Mrs. Lévai was prepared for the UNIDO Seminar on the Organization and Administration of Industrial Services in Asia and Middle East, Tashkent, USSR, 12 - 26 October 1970.

** The Guide was prepared for the UNIDO/UNESCO Inter-regional Training Course for Industrial Documentalists and Information Officers, Moscow, USSR, 28 September - 23 December 1970

*** This is a document of the IV Session of the Industrial Development Board, Vienna, Austria, 20 - 30 April 1970

**** These documents relate to the OECD Seminar on Government Responsibilities within the Field of Information for Industry, Paris, France, 2 - 5 March 1970.

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31 August 1970

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United Nations Industrial Development Organization

Seminar on Industrial Information
(for the ECAFE and ECA regions)

Tehran, Iran, 14 - 25 September 1970

INDUSTRIAL INFORMATION SERVICES IN ASIA AND THE FAR EAST [1]

by

Munir-ud-Din Ahmed
Director, Documentation Centre
for Contemporary Middle East
Deutsches Orient-Institut

Organized in co- operation with the Iranian Government

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[1] The views and opinions expressed in this paper are those of the author and do not necessarily reflect the views of the secretariat of UNIDO. This document has been reproduced without formal editing.

id.70-4761

1. The present state of industrial information services:

Every background study of the present state of industrial information and documentation services in the countries of Asia and the Far East is bound to start with a number of banalities, such as a statement about the different levels of socio-economic developments of the countries of this region, as well as some remarks on the too well known disparity in the field of industrialization between these countries. It is obvious that the intensity of demand for industrial information in different countries has to be different in quantity as well as in quality. A country like Japan with all its industrial achivements and its long industrial traditions has, of course, an entirely different demand for industrial information than Afghanistan or Nepal, where industrial age has hardly begun yet. Likewise, it cannot be expected from a developing country to establish overnight well-equipped and smothly functioning information centres for industry. And if it does, one cannot expect that the industry, which in many cases neither recognises its needs for information nor realizes its problems, would take full advantage of the facilities.

The situation in Asia and the Far East regarding industrial information services is as follows:

a) There are countries in this region, which have a highly developed and sophisticated industrial information services. such as Japan and Australia;

b) The second group of countries has technical and scientific documentation and information services, which were established with the technical assistance of UNESCO and which are working more or less successfully. Following countries belong to this group: India, Indonesia, Republic of Korea, Pakistan, Philippines and Thailand.

c) The third group of countries has some kind of industrial information services, which are nevertheless functioning mostly on a very limited scale. Burma, Ceylon, Republic of China, Malaysia, and Singapore belong to this group. A Technical Information Centre was started some years ago in Burma with the assistance from UNESCO. Ceylon and Singapore have already taken steps towards establishing National scientific and technical documentation and information services with the technical assitance of UNESCO. The establishment of such a centre in the Republic of China is also in planning phrase.

d) The fourth group consists of countries, where presently hardly any activity is to be seen in this direction. Following countries belong to this group: Afghanistan, Cambodia, Mongolia, Nepal, Laos and South Vietnam.

2. The influence of industrial information services on economic and industrial development:

State planners everywhere in the world are realizing that information services on science, technology and economy can play a vital rôle in the all-round development of developed as well as developing countries. Most accurate information is required not only at the planning phase, but at all stages of development. This is particularly the case with industrial planning in a developing country, where in most cases neither experience and know-how for industrial enterprise is readily available nor the other required conditions for its successful functioning can be found. One of the biggest handicaps for industrial establishments in developing countries is in many cases the non-availability of information on questions of vital importance to the companies concerned. Generally speaking, there is a gross lack of scientific and technical information in the developing countries. In fact this information is available in the developed countries and can be acquired easily through national information services, which as we shall see later on, are rendering good services to their respective countries. Most of these centres are very young and it is very difficult, if not impossible, at this stage to assess their share in economic and industrial development. However, experiments in Eastern European countries, as well as in other developed countries have shown, that through proper handling of scientific and technical information by the help of information and documentation centres, process of development can be accelerated to a great extent. This is why information centres are getting more and more prominence in developed countries.

3. The rôle of public and private sectors and their relationship in the provision of industrial information services:

As a matter of fact, nearly in all countries of the ECAFE region, respective governments are practically the sole supporters of industrial services. In cases there are private foundations and non-profit bodies as well as Chambers of Commerce and Industry and development banks, which run some kind of information services or support research instituts, but mainly the governments are obliged to shoulder the main burden. Excepting Japan, where the private sector is presently bearing over 60 per cent of the expenses of scientific and technological research and information, and Australia, where private industry is actively supporting information and research, in no other country of this region the private sector has any substantial share in this important activity.

In the case of the large majority of the countries of this region, it is, indeed, too early a stage to expect from the private sector to take over responsibility for the sector of information. Of course, at a certain stage of industrialisation every expanding industrial enterprise realizes the necessity of an information service for its particular needs, but experience has shown that even after reaching this stage much time is wasted, before any positive action is taken by way of establishing documentation and information services. Furthermore, it is an established fact that services of this kind have only then a chance of success, if they work in co-operation with other similar services. A stage which takes even longer to arrive at.

For the time being the initiative, direction and financing of this development would naturally be the responsibility of the governments of the developing countries. Only after the industrial community has become information minded, it shall be possible that industry organizes its own centres for its own benifit and the benifit of the country at large.

4. Decription of the main industrial information services of the selected countries of the ECAFE region

4.1. AUSTRALIA

A well developed chain of special libraries in this country generally provide some kind of technical information service in their specialized field of collection. However the most important library and information systems are those provided by the National Library of Australia and the Commonwealth Scientific and Industrial Research Organization (CSIRO).

The National Library, which specializes in the provision of services in the social sciences and humanities, has a special responsibility in the provision of national information services and in the co-ordination of bibliographic and information activities of libraries throughout the commonwealth.

Specialist services in the fields of science and technology are provided by the Commonwealth Scientific and Industrial Research Organization (CSIRO), which is structured on the principle of co-ordinated decentralisation and as a Government Statutory Authority. Among other duties laid down in the act under which CSIRO is administered states that one of its functions shall be "the collection and dissemination of information relating to scientific and technical matters".

CSIRO, which was originally a central library, now coordinates some 50 libraries of CSIRO located at each of the divisions of the organization geographically widely separated across the continent. In each of these divisions the library is a central unit providing 'on site' services. (Holdings: 70,000 books, 22,000 periodicals titles, 280,000 bound volumes of periodicals).

The fields of the Documentation Centre, which has a staff of 43 persons, includes science and technology (excluding human medicine) administration and documentation.

Abstracts are published in English in 'CSIRO Abstracts' (monthly) covering all the scientific papers published in Australia or abroad by CSIRO scientists and including a list of the translations of scientific articles made in the Translation Section of CSIRO. (1,300 abstracts were published in 1966 and 1,518 in 1967).

Bibliographies are compiled and literature searches carried out on the centre's own initiative and on request by CSIRO officers, in the form most suitable for duplicated use. Currently almost one thousand technical enquiries per week, almost half of which are from industrial firms, the agricultural community and the universities. Wherever possible, enquiries are directed to the appropriate expert in CSIRO or elsewhere. Literature is usually searched in English; annotations are in English.

Translations are prepared for CSIRO research staff only from German, Danish, Norwegian, Swedish, Dutch, French, Spanish, Portuguese, Italian, Russian, Ukrainian - and, using outside translators, other languages - into English. As stated above, a list of translations is published in 'CSIRO Abstracts', and also issued in 'Commonwealth Index of Scientific Translation' and 'US office of Technical Services'.

Publications: 'Scientific serials of Australian Libraries' is prepared by CSIRO in constantly up-dated loose-leaf form. Some 340 libraries collaborate in this publication. 'Australian Science Index' (monthly) serves as a reference to all scientific papers published within Australia. 'Directory of scientific and technical research centres in Australia (biennial) provides useful basic data about the research centres in the governmental, university and private sectors. In addition to the central Library's publishing programme CSIRO publishes a wide range of scientific and technical journals and other publications.

Reproductions are provided on request, from the holdings of the centre only, in the form of paper copy.

4.2. BURMA

Technical Information Centre.
Union of Burma Applied Research Institut (UBARI), Rangoon

This rather large institute for technical research and development work has a fairly good technical library to which is connected a Technical Information Centre started some years ago with assistance from UNESCO. The T.I.C. does not have capacity to provide a modern documentation service in technology and science, but it has extraordinarily good photographic equipment. This centre neither co-operates with the other technological institutes, such as Rangoon Institute of Technology, nor normally serves clients outside of the institute.

4.3. CEYLON

At present there is no national documentation centre in Ceylon, however consideration is presently being given to setting up of such a centre. At the request of the Government of Ceylon, a UNESCO-expert was sent to that country in December 1968 to conduct a survey for establishing a documentation centre. In his final report, the expert recommended the establishment of a 'National Scientific and Technical Documentation Centre' in Ceylon.

In the absence of this centre the documentation and information work is being carried out on a limited scale by 'Ceylon Institute of Scientific and Industrial Research' (CISIR), Colombo. The fields of research of CISIR include: science and technology with special emphasis on: applied physics, physical chemistry, chemical technology, chemistry of natural products, process engineering, microbiology and rubber technology.

The services of CISIR include the following:

a) The undertaking of specific research projects such as development of a new process or product, quality improvement, reduction of manufacturing costs, profitable use of non-raw materials or waste products or the solution of production problems.

b) Industrial production counselling, including factory layout, retention of machinery, production costing, efficiency, technical management methods, standards and quality control.

The library of the CISIR, which is open to those engaged in active research, had, as of December 1969, a total book stock of about 15,000 volumes and received some 500 periodical titles.

Since 1966 Abstracts are published quarterly in English in the 'Technical Library Bulletin of the CISIR'.

Bibliographies are compiled and literature searches carried out mostly in English, on the Institute's own initiative and on request, in the form of lists of titles and typed cards.

Translations are prepared for members of the Institute only, from French, German and from Sinhala and Tamil into English.

Reproductions are provided only for the staff of the Institute, from its holdings and the collections of the University libraries and libraries of other research institutes.

4.4. REPUBLIC OF CHINA

There is no specialized Information and Documentation Centre for Science and Technology in the country, however 'Union Industrial Research Institute' and 'The National Central Library' offer some documentation services as shall be ellaborated in the following.

Union Industrial Research Institute was established in November 1954 and is supervised by the Ministry of Economic Affairs. The institute, which has a staff of 127 persons, was devised for industrial research in the fields of chemical processes development, ceramics, metallurgy, and equipment. The library is open to the Institute's own staff and to research workers of universities and institutes. (Holdings: 13,400 books, 200 current and 930 old periodical titles.)

Bibliographies are compiled and literature searches carried out on the Institute's own initiative and on request, in the form of lists of titles, annotated lists, typed cards and reviews. Literature in English, Japanese and Chinese is usually searched. Annotations are in English and Chinese. Translations are prepared on request from Chinese into English and from English into Chinese.

Reproductions are provided on request from the Institute's holdings only, in the form of photostats.

The National Central Library: This library has been playing the part of a documentation centre in the past to a considerable extent. It is responsible for the publication of 'Handbook of Current Research Projects of the Republic of China' as well as 'The Directory of cultural Organizations of the Republic of China'. Inquiries from institutions and individuals, domestic and foreign are answered and bibliographies, also annotated are prepared. Preparations for the establishment of an 'Information Centre for Science and Technology' have been going on for some time. The planned centre will consist on the following two sections: 1. Information section; 2. Service section.

The Research Institute of Nuclear Science of the National Tsinghva University, which is dedicated to the cause of promoting the peaceful use of nuclear energy, serves as an active information center of nuclear science in the Republic of China.

4.5. INDIA

Indian National Scientific Documentation Centre (Insdoc) was established in 1952 with the technical assistance of UNESCO by the Council of Scientific and Industrial Research (CSIR), and was assigned the following objectives:

1. To receive and retain all scientific periodicals which may be of use to the country;
2. To inform scientists and engineers of articles which may be of value to them by issuing a monthly bulletin

of abstracts;

3. To answer specific inquiries from the information available in the centre;
4. To supply photocopies or translations of articles required by individual workers;
5. To be a national depository for reports of scientific work of the nation, both published and unpublished; and
6. To be a channel through which the scientific work of the nation is made known and available to the rest of the world.

INSDOC, which has six branches in the country, is supposed to cover all fields of natural science and technology.

It was suggested already at an early stage of its inception that a National Science Library was to be built up at INSDOC. But the realization of this scheme has been very slow and it is only now that some concrete plans of its realization are in sight.

The library of INSDOC comprises 27,000 books and bound volumes of periodicals, 1,000 microcopies and 3,800 periodical titles. The library is not open to the general public.

Bibliographies are compiled and literature searches (usually only in English) carried out on the Centre's own initiative and on request, in the form of lists of titles. 139 bibliographies were prepared in 1966 and 107 in 1967.

Abstracts in English are published since 1965 in 'Indian Abstracts', monthly (12,000 yearly) which is a national abstracting service for the bibliographical control of Indian scientific and technical literature. 'Indian Educational Material', which is published quarterly since 1967 includes 1,200 abstracts in a year.

Translations are prepared on request for individual scientists and institution from French, German, Russian, Japanese, Spanish, Italian and Dutch. Translations issued by the Centre are notified to the British Commonwealth Scientific Organization, London, which circulates the information on cards to its members. 917 translations were made in 1966 and 909 in 1967.

Reproductions are provided on request for scientists and scientific and technical institutes, from the centre's own collections and from those of the other libraries in India, also procurement from abroad through national documentation centres.

Union Catalogue: INSDOC has been from the very beginning trying to maintain a union catalogue of scientific periodicals held in Indian libraries.

Bibliographical controls: In 1949, UNESCO-SASCO (South Asia Science Co-operation Office) started publishing the 'Bibliography of Scientific Publications of South and Southeast Asia', which was taken over and continued until 1964 by INSDOC. In lieu of this, the more comprehensive monthly abstracting periodical the 'India Science Abstracts' was started by INSDOC in 1965.

Current Awareness Service: The greatest information problem of scientists today is that of keeping up with current developments in their respective fields. To help Indian scientists in this respect INSDOC issued a fortnightly bulletin - 'INSDOC List of current Scientific Literature', from 1954 to 1965. However this service was discontinued due to its inadequate nature of work.

4.6. INDONESIA

Pusat dokumentasi ilmiah nasional (PDIN) (Indonesian National Scientific Documentation Centre) was developed from the Documentation Section of the council for Sciences of Indonesia (MIPI) into an independent institute under the same council in June 1965. MIPI has obtained UNESCO aid since 1962 in the form of equipment, experts and fellowships to establish a national clearing house for science information. PDIN acts as a national clearing centre for scientific information in particular for the Institutes of the council, but also invites requests from abroad. Individual scientists and institutes may request articles or information on research and development, provided by international agencies (UNCD and UNIDO) directly to the Documentation Centre or through interlibrary channels.

PDIN is mainly connected with science and technology and has a staff of 28. The library, which has 13, 000 books, 400 periodical titles and 2,000 bound volumes of periodicals, is open to students, scientists and research workers.

The English language quarterly 'Indonesian Abstracts', which provides abstracts of current Indonesian literature in all fields of science, has been published since 1957 in co-operation with the Bureau of Scientific Publications of the Indonesian Institute for Sciences (formerly Council for Sciences of Indonesia). (147 abstracts were published in 1966 and 150 in 1967.)

Bibliographies are compiled and literature searchers are carried out in the form of 'Index of Indonesian Learned Periodicals' and 'Informasi Kilat' (quick information). The letter publication contains information about the contents of 1,014 periodicals subscribed by 10 research institutes of the Indonesian Council of Sciences. Scientists may choose from this list titles of interest to them which are provided to them by PDIN in the form of Xerox copies. Literature is searched in English and Indonesian. (Five bibliographies were prepared in 1967.)

There is no translation section at this centre, and the incidental inquiries for translations are answered by the help of outside translators.

The 'Directory of scientific institutes in Indonesia' was published in 1960 and the revised edition of the 'Directory of special libraries in Indonesia', was published in 1967. Further publications of the year 1968 include: 'Daftar Madjalah2 jang dilanggan oleh lembaga2 dibawah LIPI' (list of periodicals subscribed by the research institutes under the Indonesian Institute of Sciences), Bibliography on Food; and Technical Journals for Industry.

Reproductions are provided on request through an interlibrary loan system, in the form of paper copy, microfilms, microcards (microfiches)and Xerox-copies.

Union Catalogue of periodical holdings in the six main science libraries of Indonesia, which was prepared in 1953 by the assistance of UNESCO Science Co-operation Office of South East Asia, Djakarta, is maintained and up-dated by PDIN.

Checklist of serials in Indonesian libraries (1955 to 1960) was compiled by Kantor Bibliografi Nasional, which also operates an interlibrary locating scheme among 62 libraries in Djakarta and Bogor.

4.7. JAPAN

There are approximately 600 academic societies in the field of science and technology, besides about 7,500 private companies, which are also conducting research in various fields of technology. These are the largest generators of primary scientific information by the way of active research conducted by specialists in their respective fields, and by publishing journals for the dissemination of scientific knowledge.

A number of organizations, private and otherwise are active in the field of scientific and technological information in Japan. But we want to singleout JICST, which is the central organization for this purpose and also the most important one. However, the National Diet Library diserves be mentioned here for its large collections of scientific and technical literature. The emphasis is laid on the acquisition of journals and technical reports. Special bibliographies and catalogues are published as well as a monthly index journal 'Zasshi Kiji Sakuin' (Japanese periodicals index). The science and technological series of this journals carry approximately 65,000 papers from 1,300 Japanese journals.

Japan Information Center of Science and Technology (JICST) was established in August 1957 as a central organization for information in the field of natural sciences and technology. As we have seen earlier, this is not the only information center of its kind in the country, but it is the largest one as well as the leading center in the field of documentation in Japan. JICST was set up with the purpose of collecting, processing, storing and retrieving scientific information, as well as providing translations and reprographic services.

JICST, which is a non-profit institution, supported by government and industry, is supervised directly by the Prime Minister through the Science and Technology Agency of the Japanese Government.

In June 1968, JICST had a staff of 312 employers, which was assisted by a large panel of abstractors and translators, as well as typists and photolaboratory workers.

JICST covers following subject fields: General and mechanical engineering, electrical and electronic engineering, chemistry and chemical technology, earth sciences, mining and metallurgy, civil engineering and architecture, pure and applied physics, atomic energy (isotopes and radiation chemistry series), management and administration. Lately medical field has also been included.

As of April 1968, JICST was regularly receiving 7,000 periodical titles. As many as 6,000 reading room visitors were counted between April 1967 and March 1968; (the library being open to the general public) as well as 289,000 requests registered for photocopies and 5,400 translations were supplied and 1,900 literature searches made.

Bibliographies are compiled and literature searches carried out on the Centre's own initiative and on request, in the form of lists of titles, annotated lists as well as photocopies of originals are provided on request from the centre's holdings and other collections of the country. Literature is usually searched in Japanese, English, German, French and Russian. Annotations are in English and Japanese.

Abstracts (435,700 in 1967) are published in 'Current Bibliography on Science and Technology /CBST/ ; 'Atomic Energy (Isotopes and radiation chemistry series), monthly; 'Chemistry and Chemical Industry', three times a month; 'Civil Engineering and Architecture', semi-monthly; 'Complete Chemical Abstracts of Japan', monthly; 'Earth Sciences, Mining and Metallurgy', semi-monthly; 'Electrical Engineering', semi-monthly; 'Management and Administration', monthly.

Translations are provided on request from Russian, German, English, French, Italian, Spanish, Portuguese, Danish, Dutch, Swedish, Norwegian, Polish, Hungarian, Czech, Ukrainian, Chinese and other languages into Japanese and from Japanese into English, 5,500 translations in 1967.

Its publications also include: 'Gaikoku tokkyo Sokuho (Foreign patent news); 'Zyoho Kanri (Information and documentation), monthly dealing with information processing techniques; 'Nippon Kagakusoran sorakuin (General Index of Japanese chemical abstracts) 1941 to 1955; 'Nippon Tokyo Sakuin (Annual Index to Japanese patents); Technical digest for smaller industries (tentative title). The centre also publishes various research reports.

Journals and other primary publications are delivered to information officers who select articles according to pre-established criteria and mail them to abstractors to have them abstracted in Japanese. Each abstract averages 200-250 letters. The abstracts are then classified and edited; typed on 4" x 6" cards; arranged and numbered; and then sent to commercial offset printers.

From the very beginning it was decided that JICST should adopt mechanized means for processing a large amount of scientific information. As of 1969, JICST was about to organize a fully computerized method of editing its abstracting journals, in Japanese. The future planning of the Japanese Government will build up a national science information centre, with the computerized JICST at its centre, to cope with expected changes of the 1970's.

4.8. REPUBLIC OF KOREA

Korean Scientific and Technological Information Centre (KORSTIC), which was established in 1964, is the national documentation centre for phisical, chemical and biological sicence and technology including industrial engineering, agriculture, medicine and atomic energy. (Number of staff: 5.)

Bibliographies are compiled on the centre's own initiative and literature searches carried out on request, in the form of lists of titles. Literature is usually searched in English, Japanese, French, Chinese, German, Spanish and Russian. Annotations are in Korean.

Abstracts are published in Korean and English, in abstracts sections of other periodicals. 'The Korean Scientific Abstracts' (quarterly) was going to be started in May 1969. Translations are prepared on request from English, Japanese, French, Chinese, German, Spanish and Russian into Korean, and from Korean into English and Japanese.

"Current Bibliography on Science and Technology", series A, B and C, published in Korean, monthly. "Current Bibliography on Foreign Patents", published in Korean, semi-monthly. From January 1969: 'The Highlights of KORSTIC', published in Korean, irregular. List of Foreign Periodicals in KORSTIC. List of Korean Scientits' Achivements, in English. Synthetic List of Foreign Periodicals in Korea.

The Library is not open to the general public. Holdings: 3,000 books, 2,500 periodical titles, 4,000 microcopies (Foreign Patents).

Reproductions are provided on request from the centre's holdings and collections of foreign organizations, in the form of paper copy and microfilms.

"Seminar on the Scientific Information Management", one of the annual events was held for those who are engaged in the activities of scientific information in April, 1969.

A catalogue centre, in which trade catalogues from foreign countries shall be preserved, has been planned, It will supply users with the informations of developing new products and for improving their qualities.

4.9. NEW ZEALAND

Council of Scientific and Industrial Research (CSIR) is the central organization for the conduct of scientific and technological research in New Zealand. CSIR has twelve divisions, which deal with different fields. The results of research are published by the Information Bureau, which is responsible for the editing and publishing of all the scientific publications of the council and its subsidiaries.

Information Bureau provides also a central library service which includes reference facilities, an index of scientific translations, cataloguing, interlibrary lending, book ordering and assistance to branch libraries.

Information Bureau maintains also a Technical Information Section and a photographic section. A scientific liasion service is maintained under the senior scientific liason officer, whose duty it is to keep in close contact with national and international research organizations.

4.10. PAKISTAN

The Pakistan National Scientific and Technical Documentation Centre (PANSDOC), which besides its head-office in Karachi has two branches in Lahore and Dacca was established in 1957, (with technical assistance from UNESCO) as a semi-government organization and as a unit of the Pakistan Council of Scientific and Industrial Research. PANSDOC enjoys the status of a national centre. The aims and objects of this centre are to collect informations about all branches of science and technology, to process and disseminate it to the scientists, technologists and industrialists of the country. The services of PANSDOC include: document procurement, bibliography compilation, technical translation and document reproduction. The library of PANSDOC, which is destined to become the National Science Library, is at present open exclusively for the use of the Centre.

In the first phase of its establishment, PANSDOC acted merely as a National Charing House for all incoming and outgoing orders of scientists and technologists. Since 1962 the services of the Centre were enlarged and two regional offices established , one in each wing of the country, which is separated by the terretory of India.

Abstracts are published in English in the Centre's quarterly journal 'The Pakistan Science Abstracts', covering all basic literature published in the Pakistani scientific and technological journals.

Bibliographies are compiled and literature searches carried out on the centre's own initiative and on request in the form of lists of titles with full bibliographic data and annotated items. Up to 1968 some 600 specialized subject bibliographies had been compiled, which also include a number of special bibliographies of great importance for the country and the region. Literature is usually searched in English.

Translations are prepared from various languages into English by five full-time and a panel of part-time qualified translators. A list of translations is published in the 'List of PANSDOC Translations', which is distributed free of charge. Translation issued by the Centre are also notified to the British Commonwealth Scientific Organization, London, who circulate the information on its Commonwealth Translation Index cards to its members.

The Document Procurement Unit of the Centre acts as a clearing House for incoming and out-going orders. The documents are procured from the local as well as foreign sources in the form of microfilms or photocopies. A Union Catalogue of the the holdings of the local libraries was prepared on the initiative of PANSDOC for this purpose, as was also a Union Catalogue of scientific and technological periodicals available in various libraries of the country was prepared. As of 1969 almost 3,000 microfilms of scientific articles were available with PANSDOC, who plans to publish an author and a subject index of the holdings of its so-called Microfilm-Library. The Document Reproduction Unit is very well equipped and is rendering good service. Reproductions are provided on request from the centre's holdings and other collections in the form of photocopies.

PANSDOC has also started a selective dissemination information service (SDI) to channelise scientific information relevent to the various departments of the Pakistan Council of Scientific and Industrial Research (PCSIR), as well as to the industrialists of the country, who are provided with the relevent technical information relating to manufacture of the products and processes etc.

A 'Directory of Current Scientific Research Projects' of Pakistan for the years 1966-67 was published by PANSDOC at the initiation of the National Science Council.

PANSDOC has been entrusted by the Government of Pakistan the task of collecting statistical information on Science and Technology in the country.

Future programmes of PANSDOC include besides the establishment of a National Science Library the publication of a bibliography on 'Cultivation of Medical Plants' and the reprint scheme for certain rare and old scientific publications relating to Indo-Pakistan sub-continent.

4.11. PHILIPPINES

A national centre for technical information and documentation does not exist as yet. However the information work is carried out by the Division of Documentation of the National Institute of Science and Technology (NIST). Fields of information activities of this Institute include natural sciences and technology, including agriculture, fisheries, food and nutrition, and medicine.

Types of services: reference services, abstracting work, compilation of subject bibliographies, carried out on the centre's own initiative, in the form of annotated lists, national and international exchange of documents, reprographic services (from the centre's holdings only).

Translations of simple material are made on request from German, French, Spanish, the Philippine National Language and Philippine dialects into English.

The library is open to the general public. (Holdings: 20,000 books, 3,000 periodical titles.)

Abstracts are published in 'Philippine Abstracts', (quarterly), 'Philippine series of Specialized Collections of Abstracts', (3 issues with an average of 230 abstracts each). Abstracts are published in English. 4,593 abstracts were published in 1967.

Publications: Directory of Philippine Libraries, 1961, 87 p:

Philippine Scientific Bibliographies (4 published so far, listing over 6,350 entries);
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Philippine Men of Science, vols. 1 and 2.

4.12. SINGAPORE

At present there is no documentation centre of any kind in the country. The establishment of an information centre was recently recommended by an UNESCO expert. Meanwhile the Singapore Polytechnic Library offers some technical reference services to the membersof the Singapore Polytechnic, government officials and lecturers of the University of Singapore and Maryang University. (Holdings: 42,000 books, 800 periodical titles.)

Bibliographies are compiled and literature searches, mainly English, carried out. Selected journals published in Singapore are indexed, with English abstracts.

Reproductions are provided on request from the library's holdings in the form of Xerox-copies.

The University of Singapore Library intends to extend library services in the field of engineering and architecture also.

The National Library is the depository library, which is also responsible for the publication of National Bibliography. Besides the library services some translation services are also provides, whereas no regular reprographic services are offered. Collection of patents and standards seem to be neglected altogether.

4.13. THAILAND

Thai National Documentation Centre (TNDS), was established in 1961/62 by the technical assistance of UNESCO. Documentation services came into operation in 1964 and the responsibility for the Centre was transferred to the Applied Scientific Research Corporation of Thailand.

TNDC is concerned with all fields of natural sciences, applied sciences and technology. TNDC provides documentation procurement, bibliography compilation and translation services.

TNDC has compiled a Union Catalogue of periodical holdings of the libraries of Bangkok. Reproductions are provided on request in the form of microfilm or photocopies from the holdings of the special libraries of Bangkok.

Translations are prepared on modest rates by TNDC on request from all languages into English.

TNDC also compiles bibliographies on its own initiative as well as on request.

5. Training facilities for industrial information officers:

As a matter of fact, training facilities for industrial information officers in the countries of Asia and the Far East are very limited and inadequate. The dearth of trained personnel for information and documentation work is perhaps one of the biggest handicaps for all existing and especially newly established information and documentation services in countries of the ECAFE region. As we shall see later on, the existing centres are generally training personnel through in-service training schemes. In the absence of institutions for information officers' training, the personnel for documentation work has to be recruited from the ranks of subject specialists, who are trained on-job as information officiers, or personnel trained in library science.

Institutions of library science are relatively well developed in some of the countries of this region, whereas other countries have either no such institutions or institutions of comparativly low standard.

Australia has nine library schools, which are mostly departments of prominent libraries of the country. CSIRO trains its information officers through in-service scheme and short training courses.

No facilities for training are available in Burma and Cambodia. Two University colleges in Ceylon offer courses in librarian science. The Library Association of Ceylon also conducts some short courses for would-be librarians. Two Universities in the Republic of China provide comprehensive undergraduate programmes in library science. As of 1966 the establishment of a two-year graduate library institute was being planned. Education in library science is relatively well developed in India, where as many as 29 institutions of university level and otherwise offer courses in library science. However, INSDOC is compelled to train its staff on-the-job. There is one

University institution in Indonesia for education in libarg science. PDIN provides practical training in documentation and library techniques lasting 3 months. The Bibliotheca Bogoriensis also conducts a similar training course for those working in the field of agriculture and biology.

Training facilities for documentalist and information officiers are relatively better organized in Japan then anywhere else in Asia or the Far East.

The Japan Documentation Society (NIPDOK) conducts short training courses several times every year. The Japan Information Center of Science and Technology (JICST) sponsors annually a national workshop for the study of information and documentation techniques. Short training courses were conducted up till 1962 for the same purpose. Since 1965 JICST conducts an on-the-job training programme for its new members of the staff. Short courses for documentation are also organized by the Japan Library Association, National Diet Library, and The Science Information and University Libraries Section of the Ministry of Education. As of 1966-67, 22 colleges and Universities were offering courses in library science. Besides this some courses have also been organized for the users of information.

In the Republic of Korea, there are four library science departments (undergraduate), two graduate schools;two one-year courses and several school libraby administration courses. KORSTIC trains its personnel through on-the-job scheme. A library school attached to the National Library of New Zealand is responsible for the training of librarians. In Pakistan, 4 universities and 3 professional organizations of the librarians offer courses in library science. Karachi University also offers doctoral programme, whereas the other Universities have post-graduate programmesup to the degree of Master of Arts in library science. Some courses for documentation have been taken up in the programme of the Karachi University, but PANSDOC is left alone to train its staff through in-service training. In Phillipines 7 academic institutions offer regular study programmes for librarians. NIST trains its staff on-the-job. There is no library school in Singapore.

The Nanyang University had plans of starting an undergraduate course in library science in 1970. A course is offered by Chulalongkorn University in Thailand for library science. TNDC trains its staff on-the-job in ~~xxx~~ the absence of any training facilities for documentalists in the country.

6. Co-ordination and Co-operation between information services of the ECAFE region and the developed countries and international organizations

Co-operation between established information centres in countries of the ECAFE region and some of the documentation centres in developed countries is very close. Almost every centre has a number of corresponding institutions in foreign countries, which are quite often requested to furnish microfilms or photocopies or translations of the required items. In cases even training facilities for the staff-members of the centres are offered by well-established centres in the developed countries. But as soon as it comes to payment of the bills for services by the centres in developed countries in hard-currency, the centres of the developing countries face difficulties. Their financial resources are in most cases very limited, especially their quota of foreign exchange.

The relationship between these centres in developing countries and international organizations are excelent. The great majority of these centres were established by the technical and in cases also the financial assistance of the international organizations, particularly of UNESCO. Fellowships and training facilities have all along been offered by UNESCO to the staff-members of the centres. Technical know-how and equipment for the centres was supplied by the same agency. Also other inter-

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to the centres through invitations for participation in workshops, seminars and other international meetings.

7. Technical assistance for existing and newly established information centres

Technical assistance is needed urgently in nearly all branches of information work of the centres. First of all technical and professional expert help for organising training courses for the staff must be provided without any further delay. Secondly, spare parts for the mechanical equipment of the centres should be made available. In the same way arrangements for the supply of microfilms, photographic paper and paper plates for the offset machines and other such material should be made. Expert advice on classification and other questions is urgently needed by all these centres. In fact, no international co-operation would be possible in future if we miss the chance now to harmonize the prevailing different systems in Asia and the Far East.

8. Summary and conclusions

As a whole, industrial information services in the countries of Asia and the Far East are not very well developed. Eight countries have national centres for documentation and information, which are in the first instance merely documentation centres and are only partly functioning as industrial information centres. It is high time that industrial information sections are opened and industrial information officers are appointed to approach the industry personally to get to know its needs and requirements.No industrial information centre can work successfully without having intimate relations with the industry. The existing centres in Asia and the Far East have not been very successful in this field.

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INFORMATION AND DOCUMENTATION SERVICES AND THEIR PART IN INTERNATIONAL CO-OPERATION [1]

by

THE UNITED NATIONS EDUCATIONAL,
SCIENTIFIC AND CULTURAL ORGANIZATION

Organized in co-operation with the Iranian Government

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0. INTRODUCTION

In view of the rapid development of the documentation activities of international and national organizations, international co-operation in the field of documentation has become a necessity.

International co-operation means, in general terms, exchange of information in various forms, standardization and unification of methods and technology, and the division of labor among international and national organizations active in documentation.

The organization of the United Nations play an eminent rôle in documentation and in the international co-operation in this field. Their co-operation is carried out by the following methods :

- regular exchange of information on their programmes in the field of documentation, including detailed reports on their achievements ;
- standardization of advanced documentation process ;
- making unified suggestions regarding kinds of equipment for the mechanization and processing of documentation ;
- drawing up, in co-operation with interested organizations, specifications and standards for the organization and operation of documentation centres in developing and developed countries ;
- continuing efforts to obtain compatibility in the indexing of documents produced by international organizations and standardization in the reproduction and distribution of such documents.

One of the most important contribution of the United Nations organizations to international co-operation in documentation is their documentation services which enable all countries to draw upon information resources available within the UN organizations. These information sources are especially important for the developing countries for which the access to all this information provides from support for their economic and social development.

This document aims to give to the participants to the Interregional Workshop on Industrial Information (Teheran, 14-25 September 1970) a short description of the main documentation and information activities of some of the United Nations Specialized Agencies and the International Atomic Energy Agency, based on contributions of the interested organizations and on literature sources listed in the Bibliography (Chapter 9).

1. INTERNATIONAL LABOUR ORGANIZATION (ILO)

CH-1211 Geneva 22, Switzerland

1.1 GENERAL

The International Labour Organization was founded in 1919 by the Peace Conference at the end of the 1st World War and it was attached to the Society of Nations. In 1946 it became a Specialized Agency of the United Nations.

The purpose of the Organization is to contribute to universal and lasting peace through the promotion of social justice. Its aims include the promotion of full employment, of training facilities, of a just sharing of the fruits of progress in wages and working conditions, of social security measures, of occupational safety and health, and of educational and vocational opportunity.

1.2 ACTIVITIES IN THE FIELD OF INFORMATION AND DOCUMENTATION

Information is disseminated through reports to and discussions at the general Conference, tripartite regional conferences, and committees for different industries, and through other meetings. Much information is also provided by the different technical units of the Office on subjects within their different fields, in answer to direct request or in connection with international technical co-operation projects in all parts of the world.

Information is also disseminated through publications. Apart from monographs on a variety of subjects, there are regular periodical publications, issued in English, French and Spanish. The texts of the more important laws and regulations affecting conditions of labour, social security, etc., are issued in the two-monthly Legislative Series. Labour statistics are provided in a quarterly Bulletin of Labour Statistics, and on a wider variety of aspects, in the Yearbook of Labour Statistics. Articles, bibliographies, abstracts on certain subjets (e.g. automation, labour law jurisprudence) and information notes are published in the monthly International Labour Review.

A specialized information service (CIRF) issues on a subscription basis abstracts of material relating to vocational training, as well as a quarterly review and occasional monographs.

An international occupational safety and health information centre (CIS) set up in conjunction with ECSC and WHO, provides subscription services including abstracts, information sheets and bibliographies.

Most library and documentation services for the ILO are provided by the Central Library and Documentation Branch of the Office's Research and Planning Department. The Branch is responsible for providing a centralized organized collection of international coverage of current and historical published materials and other forms of documentation on labour matters to meet the needs of the Office. Service is also provided to scholars and other outsiders having a genuine need for use of the materials, and co-operation is maintained with other libraries in the Geneva area.

The Branch's collections may be roughly divided into 300.000 books, 500.000 issues of periodicals and newspapers and 1.000.000 U.N. and other international agency documents. Some 8.000 books and 200.000 issues of periodicals and newspapers and 150.000 international documents are added to the collections each year.

The main publication of the Branch is International Labour Documentation (New Series), which has been issued since the beginning of 1965. This bulletin appears weekly and announces new books, pamphlets, periodical articles and international organizations documents received in the Branch. Items are analyzed in depth by means of a system of co-ordinate indexing which has been designed in the ILO. All information analyzed has been prepared in machine-readable form, which makes possible the preparation of a complete range of reference tools through use of a computer. To date over 800 bibliographical reference lists on various subjects have been prepared from the machine-readable record.

Library and documentation service of the International Institute for Labour Studies are performed by the Institute's own Library, the purpose of which is not to duplicate the ILO Central Library and Documentation Branch, but rather to make certain categories of books more readily available to participants in the Institute study courses and for the particular research needs of the Institute staff.

The Public Information Branch of the Editorial and Public Information Department is responsible for making the objectives and activities of the International Labour Organization better understood and known to the public. Its programme is carried out in the closest possible collaboration with other ILO services and with other members of the United Nations family.

In addition to providing the usual services to representatives of information media, the Branch issues press releases from time to time, a series of information bulletins in a wide number of languages and an illustrated magazine ILO Panorama. It published brochures on various aspects of ILO activities. It maintains a film and photo library and distributes a number of individual films for non-commercial showings. It publishes the final reports on projects financed by the United Nations Development Programme (Special Fund Sector) for which the ILOis operationally responsible.

1.2.1 INTEGRATED SCIENTIFIC INFORMATION SERVICE (ISIS)

To date, this system has been used to record, display and retrieve information about documents. At present (mid-1970), nearly 40 000 bibliographical records exist on magnetic disk and are being used to generate a variety of printed indexes and for document retrieval. A master cumulative index to all documents analyzed in the five-year period from 1965 to 1969 has been prepared and will be published in late 1970. Interrogation of the file is done in conversational mode on-line via visual display terminals. Search results are printed out instantly on a tele-typewriter or on the computer's high-speed printer.

Bibliographical records consist of a physical description of the document (date and language of publication, title, author, report number, and so on), together with a subject abstract written in natural language. The abstract contains in the running text one or more tagged descriptors chosen from the *Aligned List of Descriptors*. The documents selected for recording in the system include new books received in the library, a selection of important journal articles, internal documents, technical reports or any other type of document deemed important enough to record. A current-awareness bulletin, *International Labour Documentation*, containing some 150 bibliographical records is distributed weekly to 1 300 recipients, ILO research staff or other libraries and research institutes. A separate Bristol edition is cut up to make catalogue cards which are filed in two locations in Geneva, forwarded to the Union Catalogue housed in the National Library in Berne, and also supplied on request to ILO researchers wishing to keep their own manual files.

Although many searches for information can be satisfied by consulting either the printed indexes or the manual files of catalogue cards, more complex searches require the use of the computer. Search questions are formulated on a visual display terminal, linked to the ILO computer. The simplest strategies permit searches by combinations of descriptors, language and date of publication in Boolean expressions of *ands*, *ors*, or *nots*. As each new element is typed on the terminal keyboard, the computer responds by displaying on the TV screen the number of records containing that element, together with the total number of "hits" (matches) with previous elements requested. At any point in the formulation, the user may ask to see a few bibliographical records displayed on the screen. In this way the search strategy can be modified if it is felt necessary to bring out more or fewer answers . The computer may also be asked to conduct a "free text" search for any string of characters, such as a word, group of words, journal title, etc., appearing anywhere in the bibliographical record.

In a large number of cases the search may be dealt with entirely on the terminal. If, however, the user requires the printout of a bibliography, he can instruct the computer to record the question and printing is done on the high-speed printer in batch mode at designated hours during the day. Nearly 2 500 such subject bibliographies have been prepared on the computer.

2. FOOD & AGRICULTURE ORGANIZATION (FAO)

Via delle Terme di Caracalla, Rome, Italy.

2.1 GENERAL

The Food and Agriculture Organization, a permanent specialized agency of the United Nations, came into being on 16 October 1945 with the signing of its constitution at a conference held in Quebec, Canada. The FAO's main objectives as expressed by the founder nations are "to raise the levels of nutrition and standards of living of the peoples under the respective jurisdiction of the member governments ; secure improvements in the efficience of production and distribution of all food and agricultural products ; better conditions of rural populations ; thus contribute towards and expanding world economy. To help members reach these goals, FAO provides information and advice to its States members on all aspects of the production of agricultural products, fisheries and forestry, including appraisals and forecasts of production and consumption.

2.2. ACTIVITIES IN THE FIELD OF INFORMATION AND DOCUMENTATION

The foundations of the FAO Library, which is now one of the largest international libraries in the world, were the world famous collection of the International Institute of Agriculture, absorbed by FAO in 1946 and the comparatively modest reference library in the FAO temporary headquarters in Washington. The real development of the FAO Library began in Spring 1951, after the headquarters of the Organization was transferred to Rome. The main function of the FAO Central Library, named after the founder of the International Institute of Agriculture, the David Lubin Memorial Library, is to provide all such library services as are needed by FAO's staff at Headquarters and in the field in carrying out its programme of work and to be of assistance to member States and their institutions with library services in the subject fields of the Organization.

2.2.1 THE FAO DOCUMENTATION CENTRE

FAO's experience of more than 20 years in technical assistance and other work in the food, agriculture and development fields is now indexed and stored in the memory banks of a computer. With the aim of avoiding time-consuming searching for information and costly duplication of effort - as where a field project manager may be working in the dark, unaware of methods used by others who have tackled problems similar to his own - the Documentation Centre quickly tracks down the documents containing technical, economic and social facts and figures for FAO staff, member governments, international agencies and groups, and interested individuals.

This is achieved through co-ordinate indexing of all FAO documents based on a list of descriptors, Key words and specifiers with which document synopses are prepared and fed into the computer together with the bibliographical description. The sequence of operations carried out by the Centre is illustrated by the attached flow chart.

The Centre's information retrieval system constantly stores references on the Organization's latest publications, periodicals and documents. In storing information from unpublished documents that might otherwise be lost or unknown the Documentation Centre goes beyond the normal indexing systems that limit themselves to printed works.

The Centre issues a monthly bulletin, FAO Documentation - Current Index (with semiannual cumulative issues), which lists, abstracts and indexes recently issued publications and documents. The bulletin is available free of charge, on request.

The Centre has also embarked on a series of Special Indexes, covering in turn all FAO subjectmatter fields for the period 1945-66. Each Special Index contains several thousand bibliographical entries, with cross references by subjects and authors.

When the indexes identify a document or publication as containing information that is being sought the information can be provided through one of two channels. If the document or publication is freely available, it will be provided through FAO's Publications Distribution and Sales Section. If the document is scarce (many exist only in single copies) the Documentation Centre can provide a microfiche copy in the COSATI standard format (105 x 148 mm.) (now adopted by all UN agencies) containing up to 60 pages of the document. Enlargements (hard copy) can also be provided on request.

In addition, a "Question and Answer Service" forming an integral part of the FAO Documentation Centre, supplies users upon request with selected bibliographies on specific topics.

2.3 PUBLICATIONS

FAO Documentation - Current Index (monthly, with semi-annual cumulation) ;

Special indexes : Forestry (1945-66), 656 p.
Plants (1945-66), 606 p.
Animals (1945-66), 408 p.
Nutrition (1945-66), 372 p.
Rural Institutions (1945-66), 320 p.
Statistics (1945-66), 371 p.
Commodities (1945-66), 297 p.
Economic Analysis (1945-66), 260 p.
FAO/UNDP Project Reports and Documents, Vol. 1, 2 and 3.
Fisheries (1945-69), 2 vol., 1 114 p.

3. WORLD HEALTH ORGANIZATION (WHO)

1211 Geneva 27, Switzerland

3.1 GENERAL

The World Health Organization, a specialized agency of the United Nations designed to further international co-operation for the improvement of health conditions throughout the world, was established in 1946. The anniversary of the establishment of WHO on 7 April is celebrated in many countries as World Health Day. The precursors of WHO were the International Office of Public Health in Paris, dating from 1907, and the Health Organization of the former League of Nations, set up in 1923. From these organizations, WHO has inherited various international duties such as epidemic control, quarantine measures and the standardization of drugs. But compared with these organizations, WHO is undertaking much broader aims and objectives, the principal of which, as determined in the First Article of its Constitution, "shall be the attainment by all peoples of the highest possible level of health". WHO has as its major activities the direction and co-ordination of international health work ; advice and assistance to individual States in the improvement of their health services and a wide range of technical services. In recent years, the activities of WHO covered a wide range of measures and arrangements : a global malaria eradication campaign, and similar campaigns, particularly in the developing countries, against tuberculosis, venereal and virus diseases and leprosy ; assistance to various countries in the field of community water supplies ; measures against air pollution ; work in vector control and insecticide resistance; assistance in the planning, running and developing of laboratory services and blood banks ; improvement of nursing services ; assistance in various type of maternal and child services ; work in health protection and promotion (research in cancer and cardio-vascular diseases) ; assistance for the organization or improvement of rehabilitation services for physically handicapped children and adults ; professional education and training, especially in the newly independent countries, etc.

Much of WHO's work is done in collaboration with other organizations : the Food and Agriculture Organization, Unesco, the International Labour Organization and others. In the study of both beneficent (radioisotopes) and melaficent (effects of fallout) aspects of atomic energy, WHO is collaborating with the International Atomic Energy Agency.

Membership of WHO numbers 128 States and three associate members. Its legislative organ, the World Health Assembly, which meets at least once a year, elects the members of the Executive Board. The secretariat, headed by the Director-General, is in Geneva. Besides the secretariat there are six regional committees and offices composed of representatives of the members in each région (for Africa in Brazzaville, Eastern Mediterranean in

Alexandria, Europe in Copenhagen, Western Pacific in Manila, South-East Asia in New-Delhi and the Pan American Sanitary Bureau in Washington, D.C.).

3.2 ACTIVITIES IN THE FIELD OF INFORMATION AND DOCUMENTATION

The main periodicals of WHO are : Bulletin of the World Health Organization, WHO chronicle, International digest of health legislation, Weekly epidemiological record, World health; Technical report series, etc.

The need for an adequate library and documentation service, as an essential adjunct to the technical work of the Organization, was recognized from the earliest days of the World Health Organization, and it was in December 1946 that the first books and periodicals were acquired and initial arrangements made to deal with urgent library requirements. The first issue of the monthly Library acquisitions appeared in May 1947 and reported that the WHO Library comprised 111 volumes and received fifty-seven current periodicals.

From these beginnings, the WHO Library has grown rapidly, its collection keeping pace with the expanding technical work of the Organization. Today, thanks in part to the inheritance of the Library of the Office International d'Hygiène Publique, Paris, one of the forerunners of WHO, it contains over 90 000 volumes, in addition to large collections of mimeographed documents and official government reports. Although a representative collection is maintained of modern works in several languages on most branches of medicine, special emphasis is placed on public health, communicable diseases, environmental sanitation and the other medical specialities of particular interest to WHO. A special feature is the large international collection of current medical and scientific periodicals, of which over 3 000 are received regularly, approximately 1 400 being in exchange for WHO publications.

The growth in size of the Library has been accompanied by a corresponding increase in the services offered and in the use made of them. For example, in 1950 the number of items lent, including the circulation of periodicals, amounted to 29 366 ; by 1969 it had risen to 90 577. In 1950, 163 volumes were lent to other libraries ; in 1969, 4 815. The original conception of the WHO Library as a small working collection designed primarily for the use of the WHO secretariat has had to be adjusted to the fact that it is now one of the larger collections of current medical and public health literature in Europe and is called upon more and more for loans to other libraries and for the supply of microfilms and photocopies of literature not easily obtainable elsewhere. Between 10-12 000 exposures are made monthly on the WHO Library's Xerox 720 photocopy machine and supplied mainly to Regional Office and field staff but also to Swiss libraries in lieu of interlibrary loans.

A distinguishing feature of the work of WHO is the Library's use as a training centre for medical and scientific librarians. Since 1950, WHO fellows from various countries have spent periods of from one to twelve months studying its routines and techniques and participating in its daily work. From time to time short-term refresher courses are organized. In 1966, for example, a 6-week intensive course was held in Geneva for 12 medical librarians from 7 Middle Eastern countries. Lectures in the morning were followed by practical work in the Library during the afternoon.

Much of the special difficulty of providing a documentation service in WHO arises from its regional structure. In addition to its headquarters in Geneva, there are WHO regional offices in Alexandria, Brazzaville, Copenhagen, Manila, New Delhi, and Washington, as well as teams operating in remote areas all over the world. More than two-thirds of the technical staff are thus working away from Geneva, many far removed from the most rudimentary form of medical library.

In 1949 the WHO Library began regularly indexing by subject the articles in medical and scientific periodicals that were of potential interest to WHO technical staff. The contents of approximately 1 200 periodicals are regularly scrutinized and about 1 000 articles are selected each month. From a typed transparent masterslip, which contains a full bibliographical reference and a subject heading based on those in use in Index medicus, cards are prepared by a cheap photographic process for weekly distribution to WHO technical staff at headquarters and in all regional offices. The indexing, it should be noted, is extremely selective, not only with regard to subject but also to aspect, the public health rather than the clinical viewpoint being emphasized. To the provision of these slips is added a photocopying service, so that staff at the periphery of the Organization may be supplied as rapidly as possible with the technical literature they require.

An alphabetical subject file of these index slips is maintained in the WHO Library for consultation by all library users. This is now restricted to the literature of the last five years, older cards being discarded annually for it may legitimately be assumed that after that lapse of time adequate reference to the article will be found in the usual printed sources available for retrospective search in medical bibliography.

The indexes to the current periodical literature described above, together with a comprehensive international collection of medico-bibliographical tools, form an essential element in the provision of a documentation service on medical and public health topics, which is available on request not only to WHO staff but also to the medical and health departments and institutions of WHO member States and to the United Nations and specialized agencies. A large number of inquiries are dealt with, ranging in scope from the identification of references to the compilation of bibliographical surveys of available literature. In those cases where the bibliographies might have a wider application, consideration, in collaboration with the technical sections of WHO, is given to publication, and in the past few years a number of comprehensive bibliographies have been published in bilingual editions. An agreement has been signed with the National Library of Medicine in Washington concerning WHO participation in MEDLARS (Medical Literature Analysis and Retrieval System), and it is expected that this will lead to easy WHO access to this large computerized information service.

In addition to providing a documentation service on the technical subjects dealt with by the Organization, the WHO Library is responsible for the collection, maintenance and bibliographical control of the mimeographed documents and printed publications issued by WHO, not only in Geneva but in the WHO regional offices throughout the world. The WHO mimeographed documents of a technical nature are considered as working papers and are therefore distributed only within the WHO circle of technical collaborators. This does not, however, dispense with the necessity for a very detailed analytical index to their authors and contents. This is maintained on cards and combined with an index to the printed publications to cover all the mimeographed and printed output of the Organization both at Geneva and in the regional offices.

Comprehensive analytical bibliographies of WHO publications have been prepared and published in English and French editions. These include all articles published in WHO periodicals, as well as all other WHO publications, including chapters contributed by individual authors in symposia and other collected works, grouped under subject headings, alphabetically arranged and supplemented with author and geographical indexes and a check list of publications by series. It is planned to issue such bibliographies every five years.

The regional structure of WHO has inevitably presented the library and documentation services with a considerable number of problems. Small libraries have had to be established in the regional offices, and today the WHO Library in Geneva functions as the central library of the Organization providing a central acquisition service, supplying catalogue cards to all WHO documents and publications and all material acquired by the Library, and supplementing the local resources by loans, photocopies and assistance in dealing with reference inquiries. The central acquisition service is responsible for the supply of medical literature to the whole of the Organization. In 1969 this involved orders and requests for 15 855 books, annuals and periodical subscriptions (i.e. 34 372 copies) at an estimated cost of $ 269 000. The literature was sent to 511 different WHO offices and other institutional libraries (for whom medical literature is purchased by WHO on a reimbursable basis and paid for by governments) in 107 different countries. The growth in this service is constant. The purchase of medical literature on behalf of governments for medical institutions is a recent development and involves a number of countries in Asia and the Middle East, where the local supply of medical literature is insufficient to meet the needs of the academic libraries.

The current acquisitions of the WHO Library are listed monthly in Library acquisitions which, in addition to its distribution throughout the WHO secretariat, is available on request to medical and scientific libraries throughout the world. From time to time supplements of a medico-bibliographical character are prepared and issued. One such supplement is a computer-produced list of the periodical holdings of the Library issued every year ; another is a list of the holdings of the three large international libraries in Geneva (WHO, International Labour Office, and the United Nations Library, Geneva) of annual governmental reports on public health and medical subjects ; another is devoted to a guide to the reference sources on medicine and public health in the Soviet Union. A third edition of a supplement first issued in 1953 is now in preparation. This is a list of current indexing and abstracting periodicals in the medical and biological sciences, arranged alphabetically by title, with a subject and sponsor index, giving detailed information as to publisher, price, periodicity, number of abstracts published annually, etc.

In recent years, the WHO Library has begun to mechanize some housekeeping operations, making use of the IBM 360/40 computer operated by WHO's Data Processing Unit. The first project concerned the Library"s collection of periodicals. Comprehensive information on every periodical has been collected and stored on magnetic tape, creating a data base from which a great variety of outputs can be obtained, the most important being the annual List of Periodicals. This first phase of a mechanized serials system became operative in early 1970. In a second phase whose implementation is under way, the system will be extended to include the annual renewal of approximately 6 000 periodical subscriptions for the WHO Library, the Regional Office Libraries and the WHO field projects.

In the new WHO Headquarters Building completed in 1966 the Library is provided with accommodation for fifty readers and approximately 125 000 volumes. The main reading room with space for forty readers and the bulk of the collection of the books and monographs is reached through a catalogue hall, while behind it a stack room containing bound volumes of periodicals and the remainder of the collection is open to access by all readers. The loan service is provided with an automatic book lift to all floors of the main building. The accommodation is completed by a documents room for four readers and a periodicals room accommodating six readers and the current numbers of some 2 000 periodicals.

3.3 PUBLICATIONS

Publications of the WHO Library :

Bibliography on bilharziasis, 1949-1958, 1960, 158 p.
Title, preliminary matter and subject indexes in English and French.

Bibliography of hookworm disease (ancylostomiasis), 1920-1962, 1965, 251 p.
Title, preliminary matter and subject indexes in English and French.

Bibliography on the epidemiology of cancer, 1946-1960, 1963, 168 p.
Title, preliminary matter and index by anatomical site in English and French. Also published (1964) in Russian.

Bibliography on yaws, 1905-1962, 1963, 106 p.
Title, preliminary matter and indexes in English and French. Also issued (1964) in Russian.

Library acquisitions, V. 1, no. 1- ; May 1947. Monthly.
Title and headings in English and French.

Medical education ; annotated bibliography, 1946-1955, 1958, 391 p.
Also issued in French, 1960.

Publications of the World Health Organization, 1947-1957 ; a bibliography, 1958, 128 p. Also issued in French.

Publications of the World Health Organization, 1958-1962 ; a bibliography, 1964, 125 p. Also issued in French.

Publications of the World Health Organization, 1963-1967 ; a bibliography, 1969, 152 p. Also issued in French.

Other publication

Catalogue of World Health Organization publications, 1947-1967, 1968, 146 p.
Also issued in French and Spanish.

4. INTERNATIONAL BANK FOR RECONSTRUCTION & DEVELOPMENT AND INTERNATIONAL MONETARY FUND (IBRD/IMF)

(World Bank Group)

19th and H Streets, N.W., Washington, D.C., USA

4.1 GENERAL

The United Nations Monetary and Financial Conference, which met at Bretton Woods, New Hampshire, U.S.A., in July 1944, founded the International Bank for Reconstruction and Development (World Bank of IBRD), and drew up the articles of Agreement for the International Monetary Fund (IMF), which came into force on 27 December 1945. The aim of the Bank as an international co-operative organization, associated with the United Nations as a specialized agency, is to assist in reconstruction and development of its member countries by facilitating investment of capital for productive purposes and thus to raise the standards of living of the peoples of the world. The Fund was established to promote international co-operation on monetary problems and the balanced expansion of world trade through a permanent institution which provides the machinery for consultation and collaboration in this field.

The Joint Bank-Fund Library was established as the Library of the International Monetary Fund in 1946, and became the Joint Bank-Fund Library in 1947 when it began also to serve as the Library for the International Bank for Reconstruction and Development. It has also functioned as the Library of the Bank's affiliates, the International Finance Corporation and the International Development Association, since they were established in 1956 and 1960, respectively. The Joint Library is administered directly by the International Monetary Fund and is a Division within the Fund's Department of Administration. The Library's facilities, however, are provided on an equal basis for the staffs of all the organizations which the Library serves.

4.2 INFORMATION AND DOCUMENTATION ACTIVITIES

Documentation

The following categories of World Bank Group documents are publicly distributed :

Annual Reports ; Summary Proceedings of Annual Meetings ; Quarterly Statements of Loans, Credits, and Investments ; Articles of Agreement and By-laws ; Loan and Development ; Credit Agreements ; Guarantee and Project Agreements, if applicable ; and General Conditions on Loans and Credits (the loan and credit agreements are registered with the United Nations and published in the U.N. Treaty Series).

Documents of a restricted nature are, by agreement, provided for appropriate international development agencies.

Selected reports of applied and original research in fields relating to the Bank's lending operations are listed in the Catalog of Studies prepared by the Bank's Economics Department. Copies of some of the items listed may be obtained on request.

4.3 PUBLICATIONS

The Information and Public Affairs Department has the general responsibility for planning and executing information activities in support of the operations of the World Bank Group. They prepare the annual reports of the World Bank Group for publication, in co-operation with the other Departments concerned, news announcements, and information booklets and leaflets ; assist in the preparation of speeches and the production of books and Occasional Papers published or distributed by The Johns Hopkins Press and other publishers.

The publications are listed in two leaflets : Free publications of the IBRD and Sale publications.

5. UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANIZATION (UNESCO)

Place de Fontenoy, Paris, France

5.1 GENERAL

Unesco is a specialized agency of the United Nations since 4 November 1946. By the terms of its constitution, Unesco is called upon to "maintain, increase and diffuse knowledge, give fresh impulse to popular education and to the spread of culture, and collaborate in the work of advancing the mutual knowledge and understanding of peoples".

Two decades after its constitution came into effect, three main aspects can be seen in Unesco's work : international intellectual co-operation ; operational action in the service of development ; and moral action.

Unesco's first concern was to organize international intellectual co-operation through the communication of knowledge, the comparing of experiences and the exchange of ideas. This has been achieved mainly by building up a vast network of specialists - educators, scientists, artists, writers, journalists - belonging to national associations and international federations with which Unesco collaborates regularly. It is further expressed in major conferences, frequent meetings of experts, steady efforts to standardize documentation, the preparation and application of international research programmes and through numerous publications. Finally, it assumes the form of international rules and recommendations to which States are invited to adhere or conform.

5.2 ACTIVITIES IN THE FIELD OF INFORMATION AND DOCUMENTATION

Since its inception Unesco has always been concerned with problems of documentation in all the major branches of its activity, e.g. Education (educational documentation), Science (scientific and technical information), Social Sciences (documentation on the social, economic and human sciences), Culture (libraries, archives, museums, cultural centres) and, in recent years, Mass Communications (press, publishing, radio, television, cinema).

In all these branches of documentation Unesco endeavours to develop the appropriate service in its Member States and at regional and international level, with special reference to the vocational training of documentalists, librarians, archivists, museum curators, journalists, etc., promotion of studies and research, mechanization and automation in documentation work, standardization of methods and techniques, planning the development of the services, co-ordinating efforts of national, regional and international bodies, provision of experts, award of fellowships.

5.2.1 Department of Documentation, Libraries and Archives

In 1967 the Department of Documentation, Libraries and Archives (DBA) was established and placed directly under the Assistant Director-General for Communication.

It is composed of the following four units :

5.2.11 Division for the promotion of research and international co-operation in documentation

The Division is responsible for promoting studies and research in documentation and for co-operating with national, regional, international, intergovernmental and non-governmental organizations dealing with libraries, archives and documentation in general. It provides the Secretariat for the International Advisory Committee on Documentation, Libraries and Archives which meets every two years and consists of eminent documentalists, librarians, archivists, educationists, scientists, engineers and humanists representing member countries on a wide geographical basis.

The Division works in close co-operation with the International Federation for Documentation (FID), the International Federation of Library Associations (IFLA) and the International Council on Archives (ICA).

The Division provides information to Member States, interested organizations, documentation centres, libraries, archives, specialists in these fields regarding modern trends in this field of Unesco's activities and issues the following periodicals :

The Unesco Bulletin for Libraries : a bi-monthly journal containing original articles and information on matters concerning libraries, bibliography, documentation and archives, is published in English, French, Russian and Spanish.

Bibliography, Documentation, Terminology : a bi-monthly bulletin containing short notes on the most important activities relating to documentation in education, science, culture and communication, is also published in four languages.

In addition, the Division publishes reports on surveys, carried out under contract, manuals on various aspects of documentation, library and archive work, such as Methods of teaching librarianship and Bibliographical services throughout the world.

It also fosters the international exchange of publications by inserting exchange offers in the Unesco Bulletin for Libraries and through the medium of two Unesco conventions, one on the exchange of publications and the other on the exchange of official publications and government documents between States.

5.2.12 Division for the development of documentation, library and archives services

The task of the Division is to help Member States to develop their documentation, library and archives services. Aid is given to the planning of documentation, library and archives services, the building up of an information infrastructure, the development of national, public, school, university and special libraries, national and regional documentation centres and archives services, the organization of training of documentalists, librarians and archivists. In this sense, expert meetings on the national planning of documentation and library services in relation to social and economic development were held in Latin America (Quito, 1966), in Asia (Colombo, 1967) and is foreseen in Africa (Kampala, 1970) and Arabic countries in 1971.

The Division contributes to the organization of training courses and seminars and, in co-operation with Member States, sets up pilot projects in the fields mentioned above. In order to help the training of librarians an audio-visual course was prepared in Spanish and tested in five Latin American countries. A French version of this course is being prepared to be utilized in the Franch-speaking African countries.

5.2.13 Computerized documentation service

A new unit called the Computerized Documentation Service (CDS) was set up in 1970, subject to the approval of the General Conference of Unesco, with the task of developing a computerized service to be operational in 1971.

The CDS, making use of the computer configuration available at Unesco, and applying procedures and methods compatible with those of the computer-based documentation services of other members of the United Nations family, will process some 30 000 Unesco documents and publications, which will be analyzed and indexed and the information thus extracted will be converted to a machine-readable format, input into the computer and stored on magnetic tape and disk for future retrieval and dissemination. A master negative microfiche will be created for all documents thus processed, making possible the distribution of the documents on demand, in either positive microfiche form or enlargement. The service will be in the future extended to process external documents and publications necessary to the implementation of the Programme of Unesco, especially in the field of education and research in documentation. CDS will also function as a demonstration and training centre to advise documentalists and information specialists, particularly from developing countries, on the application of systems development and modern technology to information control.

5.2.14 Unesco library and documentation service

The Division consists of the Central Library, the Archives and specialized documentation centres on education, social sciences and mass media.

Its main function is to provide information and lending services to assist the Secretariat staff to plan and implement the programme and to administer the Organization. It is responsible for ordering publications for all field programmes under the United Nations Development Programme and all headquarters units. Libraries and documentation centres attached to regional and field offices provide also assistance to field experts and encourage a greater use and wider dissemination of Unesco documents and publications in Member States.

5.2.2 Department of Science Policy - Division of Scientific Information

5.2.21 Unisist - World Science Information System

A study was undertaken jointly with ICSU in 1969-1970 on the establishment of a world science information system (UNISIST). The study concludes :

- that the establishment of such a system for the purpose of ensuring easy access for the world community to the collective store of knowledge from which scientific and technical information will be extracted and processed effectively is feasible ;

- that the system should be considered as a philosophy, an organization and a movement. It is based on the general principle that, as science has come to play a vital rôle in the life of all human beings, the material on which it feeds (i.e. scientific information) is of utmost importance to world society and the future of mankind. The responsibility, therefore, for handling the flow of scientific and technical information lies upon society as a whole, regardless of socio-cultural, economic or political differences ;

- that the System will be multinational, multidisciplinary and multifunctional. It will be conceived as a flexible international network which should integrate, on a voluntary basis, the existing separate and loosely connected scientific information services with a view to achieving through international co-operation, a more efficient and widely utilized system, on a world-wide basis. With respect to scope, the System will adopt, at least initially a pragmatic approach, following the existing practices as reflected in the major science information services of the world ;

- that as an organization, the System will require some kind of inter-governmental machinery which will co-ordinate and catalyse the efforts made towards harmonization of information transfer methods and the creation of a favourable climate for a co-operative arrangement between nations.

According to the study, UNISIST will offer numerous advantages. Through integration and co-operation at all stages of information transfer, it will reduce unnecessary and costly duplication in information processing. It will also remove barriers of an administrative (e.g. customs, copyright) technical (e.g. lack of standardization) and socio-cultural (e.g. languages) nature, as well as overcome economic problems such as the lack of adequate funds, equipment and training personnel, which in fact prevent many from having easy access to existing stores of scientific and technical information. The System will also alleviate the uneasiness felt by scientists on account of information surfeit and lack of evaluation.

As a first step towards the establishment of the System, an inter-governmental conference, subject to the approval of the General Conference, will be convened in 1971, in close co-operation with ICSU. It is expected that the conference will make recommendations concerning the mechanism and procedure by which Member States could play an active rôle in the implementation of the System. These recommendations will be submitted for approval to the General Conference.

Specialists will be sent to Member States, at their request, to assist them in the reparation of groundwork for implementation of the World System. Meanwhile, other measures will also be taken to encourage the development of numerical data and information analysis centres as potential components of the World System. This work will be done in close co-operation with the ICSU Committee on Data for Science and Technology (CODATA) and the World Federation of Engineering Organizations (WFEO).

3.2.22 Scientific and technical terminology

In order to facilitate the location of dispersed sources of scientific and technical terminology, assistance is given for the establishment of an international clearing house for the exchange of information on such sources, as well as for the publication of bibliographies of keywords, classification schemes and thesauri. Assistance is also provided to existing regional centres in the field of scientific and technical translations such as the Information Service on Scientific Translations into Spanish established with Unesco aid as a pilot project in Buenos Aires (1966), with a view to improving information on and accessibility to scientific and technical translations.

Efforts will be continued to promote the harmonization of scientific and technical thesauri for information retrieval. On the basis of the experiment will be studied with a view to arriving at a methodology for the construction of multilingual thesauri.

5.2.23 Primary and secondary scientific publications

The Division, in co-operation with ICSU and WFEO, is working on the creation of associations of editors of journals in science and technology, either by region or discipline, with the ultimate aim of establishing a world federation of associations of editors of scientific and technical periodicals. Studies on scientific and technical periodicals and abstracting journals have been prepared and will be continued with a view to improving the collaboration between both categories of journals. Work will also be undertaken in co-operation with appropriate organizations (e.g. ICSU/Abstracting Board) to lay down the groundwork for establishing a world register for scientific journals, abbreviations and codes, inteded to facilitate the exchange of scientific information.

6. WORLD METEOROLOGICAL ORGANIZATION (WMO)

CH-1211 Geneva 20, Switzerland

6.1 GENERAL

The World Meteorological Organization (WMO) was established in October 1952 as a specialized agency of the United Nations, as a successor of the International Meteorological Organization (set up in 1878 at Utrecht) "with a view to co-ordinating, standardizing and improving world meteorological activities and to encouraging an efficient exchange of meteorological information between countries in the aid of human activities". The activities of the Organization include water resources development programmes, studies of natural energy sources (wind and solar), storm and other weather observations on a world-wide basis, standardization of instruments, and sponsorship of such projects as the International Geophysical Year. Another of the major objectives of the Organization is to encourage research and training in meteorology, and to assist in co-ordinating the international aspects of such research and training.

6.2 INFORMATION AND DOCUMENTATION ACTIVITIES

6.2.1 The WMO Secretariat prepares, edits and arranges for the issue of the documentation for sessions of constituent bodies and of the approved publications of the Organization.

6.2.2 Documentation for sessions of constituent bodies is normally distributed on a limited basis to Member countries concerned and to designated participants to the session. The United Nations and its Specialized Agencies do also receive this documentation.

6.2.3 WMO Publications are distributed to official addressees in Member countries and put on sale to the public in general. Copies may be obtained from the WMO Secretariat as explained in the enclosed Catalogue.

6.2.4 A number of documents and publications are issued in the four official and working languages of the Organization, i.e. English, French, Russian and Spanish.

6.2.5 To meet the requirements of the Organization in this connexion, the Secretariat establishment includes sections on Languages, Publications, Typing and Duplication integrated into a Division for Conferences and Publications for the overall direction and supervision of the services concerned.

6.2.6 A substantial part of the printing work is done by offset methods within the Secretariat. Metal type printing is ordered to outside printers under contract.

6.3 PUBLICATIONS

The publications of the WMO are grouped in series ; the main ones are listed below :

Basic documents, including the Convention and the Regulations of WMO ;

Official records, including the proceedings and reports of the World Meteorological Congress and of the Executive Committee ;

Reports of sessions of Regional Associations and Technical Commissions, as well as the Annual Report of WMO ;

Technical Publications,including guides, manuals, monographs, progress reports and Technical Notes and Training Publications ;

World Weather Watch Planning Reports, Status Reports and lists of Projects ;

WMO/IHD Reports issued in connexion with the International Hydrological Decade;

Miscellaneous publications including proceedings of seminars, symposia and other technical Conferences.

Detailed references of all these publications can be found in the Catalogue of WMO Publications.

7. UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

(UNIDO)- Rathausplatz 2, 1010-Vienna, Austria.

7.1 GENERAL

UNIDO was established by the General Assembly on 1 January 1967 as an autonomous body within the United Nations to promote and accelerate the industrialization of the developing countries and to co-ordinate the activities undertaken by the United Nations family in this respect. Its main functions are to :

a) encourage, promote and recommend national, regional and international action to achieve more rapid industrialization of developing countries ;

b) contribute to the most effecitve application in the developing countries of modern industrial methods of production, programming and planning, taking into account the experience of countries with different social and economic systems ;

b) build and strenghten institutions and administration in the developing countries in the field of industrial technology, production, programming and planning ;

d) disseminate information on technological innovations originating in various countries and assist the developing countries in the practical application of such information ;

e) assist, at the request of developing countries, in the formulation of industrial development programmes and in the preparation of specific industrial projects ;

f) aid in the regional planning of industrialization of developing countries within their regional and sub-regional economic groupings ;

g) offer advice and guidance on problems relating to the exploitation and efficient use of natural resources, industrial raw materials, by-products and new produtcs of developing countries ;

h) assist the developing countries in the training of technical and other appropriate categories of personnel needed for their accelerated industrial development, in co-operation with the specialized agencies concerned ;

i) propose measures for the improvement of the international system of industrial property, with a view to accelerating the transfer of technical know-how to developing countries.

The guidelines for UNIDO's work programme, established by the Industrial Development Board, emphasize operational activities in the field and the central co-ordinating rôle of the Organization in industrial development for the United Nations system. The organization of UNIDO in three substantive divisions and the Technical Co-operation Division with the necessary supporting administrative services is designed to promote the purposes of the Organization along these guidelines. The Technical Co-operation Division is entrusted with the co-ordination and administration of the technical assistance programme, the implementation of country projects and the maintenance of contact with the field. The substantive divisions, i.e. the Industrial Technology Division, the Industrial Services and Institutions Division and the Industrial Policies and Programming Division, provide the back-stopping and the technical support for field activities.

7.2 ACTIVITIES IN THE FIELD OF INFORMATION AND DOCUMENTATION

The objectives of UNIDO in the field of industrial information are geared towards expanding and broadening the flow of industrial information from existing sorces all over the world to developing countries.

The activities of UNIDO are at present restricted to advisory activities, collection of selected documentation and data, supply of information in response to specific demands, dissemination of information on industrial development through periodicals and other publications and technical assistance.

The clearing-house approach, adopted by UNIDO, is aimed at setting up a centre, to which industry in developing countries can refer all types of requests for information, and at providing answers to these inquiries by directing them to competent sources of information.

So, the UNIDO Industrial Information Service provides practical assistance to developing countries by answering, without charge, their inquiries on problems in industry. The Service can be used by officials and technical personnel of public and semi-public bodies concerned with industrial development, as well as industrial enterprises of all kinds.

A pilot project was started for the introduction of a computerized information retrieval system, using the IAEA computer facilities and a magnetic tape data recording unit located in UNIDO. For this project, selected UNIDO documents were classified, subject-indexed, abstracted and analyzed by the documentation unit.

7.3 PUBLICATIONS

Information on industrial development is disseminated regularly through two periodical publications :

The Industrial Research and Development News, contains information on new industrial development projects, implementation of industrialization, programmes and transfer of technology to developing countries, as well as on the organization and operation of industrial research institutes, the functions of industrial development banks and similar activities.

The UNIDO Newsletter disseminates information on UNIDO activities.

The publication of a journal called Industrial Development Abstracts is also foreseen.

8. INTERNATIONAL ATOMIC ENERGY AGENCY

Kärntner Ring 11, Vienna, Austria

8.1 GENERAL

The International Atomic Energy Agency, an autonomous intergovernmental organization, operating under the auspices of the United Nations, was established on 26 October 1956 in New York. The objective of the Agency is "to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world". To this end, it encourages and assists research on the development and application of atomic energy for peaceful uses, the exchange and training of scientists, the diffusion of technical information, the production of nuclear power and the adoption of standards of safety. IAEA makes provision for necessary materials, services, equipment or facilities in consideration of the needs of the developing areas of the world. It has wide powers of inspection and control in the interest of protecting its activities from serving military purposes.

8.2 INFORMATION AND DOCUMENTATION ACTIVITIES

One of the objectives of the Agency as set out in Article VIII of the Statute reads :

"Each Member State should make available such information as would, in the judgement of the member, be helpful to the Agency".

"It (the Agency) shall take positive setps to encourage the exchange among its members of information relating to the nature and peaceful uses of atomic energy and shall serve as an intermediary among its members for this purpose".

In order to discharge this responsibility, the Agency has included in its organization from the beginning a Division of Scientific and Technical Information and a programme of scientific publication.

At present the four sections of the Division of Scientific and Technical Information are the Library, the Computer Section, Scientific Conferences and INIS (International Nuclear Information System).

The Division of Publications works through a Publications Committee chaired by the Director of the Division of Scientific and Technical Information. The Division of Research and Laboratories, through its various scientific international connections, is also active in the dissemination of nuclear information.

8.2.1 The Library

The Library collects and organizes information available from Member States and also purchases books, periodicals and reports dealing with the peaceful uses of atomic energy and allied subjects. The Library now has a collection of over 22 000 books. This figure has been maintained by a policy of retiring library material as soon as the information it contains is out of date. There are 1 207 subscriptions to periodicals and 111 628 technical reports of which 68 335 are on microfiche. There are also 463 films which are used not only for Training Courses given by Agency staff but which are loaned regularly to institutions in the various Member States.

The Library maintains exchange agreements with scientific institutions in many Member States and through these agreements the Library acquires many internal publications, which would normally be rather difficult to obtain. The services of the Library are available to staff members and to technical experts who are giving advice to Member States. These services are also directly available to scientific institutions and governments in Member States.

The Library publishes monthly an acquisitions bulletin which lists the new material received in the Library. This bulletin is entitled New Books in the IAEA Library and is computer produced. Items announced in the bulletin may be borrowed by scientific institutes and governments of Member States through our interlibrary loan service. The Agency's library will attempt to obtain a document which has been requested by a scientific institution that might have had difficulty in acquiring it, provided that the document is concerned with the peaceful application of nuclear science. The Library will then make this document available to the interested party either through the microfiche service or as a loan.

The Film Library receives gifts of films dealing with the peaceful application of atomic energy from Member States and makes these available on loan to institutions throughout the world. This collection of films has increased considerably and the services of the Film Library are now well known. A cumulated listing, the IAEA Film Catalogue is issued annually in September.

The Library supplies photocopies of journal articles following normal interlibrary loan policy and, whenever necessary, the Library lends its monographs and reports. The Library has also acted as an intermediary between establishments by obtaining material from one country and passing it on either directly or indirectly to another.

The first computer application in the Library was the production of a list of journal holdings. This is now in the process of being up-dated with very much more information added, so that it may be used for journal ordering and, hopefully, at a later date for automatic circulation of journals.

In order to be able to offer increasingly sophisticated services, the Library has automated some other of its routines. It is now possible to obtain for any subject requested a list of the catalogued material from 1969 to date. A book catalogue of the material received in 1969 with indexes will soon be published. This will be cumulated annually. A list entitled Conference Proceedings in the IAEA Library has recently been published. It is expected that these three lists will be up-dated regularly in the future and will be printed at least once a year.

8.2.2 Scientific Conferences

Each year the Agency convenes about 12 major scientific conferences or seminars and about 30 to 40 smaller meetings. The larger scientific conferences involve 150 to 300 participants (occasionally more), and deal with one or another of the various aspects of atomic energy and its applications. About half of these meetings are held at Agency Headquarters and the others at suitable locations at the invitations of the governments concerned.

These conferences provide many opportunities for the exchange of scientific information. The Agency has recently instituted a procedure to give financial assistance towards the traval of a limited number of participants from developing countries.

The seminars have partially-educational character. Experts in particular subjects lead discussion, and groups of 50 to 100 participants exchange information on the problems that they face. Seminars are often arranged on a regional basis.

Small Agency meetings, such as panels, study groups and research co-ordination meetings, are attended by experts invited by the Agency, generally on the nomination of Member States. They provide opportunities for the formulation of recommendations on a specific course of action and for the exchange of information in more highly specialized fields or, for example, between holders of Agency research contracts in a particular region.

In order to meet its obligation to promote international co-ordination of scientific conferences in the atomic energy field, the Agency keeps close working contact with the U.N. Specialized Agencies and other international organizations active in this field. As an important means in this context the Agency publishes a quarterly list of conferences held throughout the world, called Meetings on Atomic Energy.

8.2.3 The International Nuclear Information System (INIS)

This is a co-operative scheme involving the Agency and its Member States to provide comprehensive indexing coverage of the world's nuclear literature.

In 1969, the Agency's Board of Governors approved in principal the start-up of the International Nuclear Information System in 1970. INIS now has computer produced announcement bulletins which are supported by abstracts and/or full texts on microfiche. These microfiches are available to any applicant for the equivalent of 65 cents U.S. per report, payable in th national currency of the Member State.

Member States, singl or in groups, will be responsible for the input from the scientific and technical literature published in the geographical area for which they are reporting. They will identify items within the subject groups of INIS and will submit a bibliographic description, key words and an abstract as well as the full text for non-conventional literature. This material will be recorded on magnetic tape and the abstracts and full texts will be assembled on microfiche. INIS offers to participating Member States a once monthly magnetic tape service. These tapes may be used for international SDI and as the basis for national nuclear information services. INIS will also print a once montly indexed bulletin directly from the tape. This will be a sales publication. Institutions may also subscribe to the abstract service on microfiche.

At present INIS is operating on a limited subject scope which, however, includes the following topics : reactors and reactor materials, uranium production and fuel cycles, nuclear techniques in food and agriculture, health, safety and waste management, isotope production, industrial applications of radiation, peaceful nuclear explosions, safeguards, legal and economic questions. It is expected that in a year or two the scope will be expanded to cover all the nuclear sciences and their peaceful applications.

8.2.4 Division of Publications

The Agency has become one of the largest scientific publishers in Europe. It issues approximately 30 000 pages of text each year. A considerable part of this consists of the proceedings of Agency conferences, seminars and small meetings.

It also publishes directories, guide books (e.g. its Safety Series), technical reports on the result of specialized studies, and four journals :

Atomic Energy Review (specially commissioned review articles on particular aspects of atomic energy)

Nuclear Fusion (contributed and review articles on nuclear fusion, plasma physics, MHD)

Meetings on Atomic Energy (a world-wide list of meetings on atomic energy and space science)

IAEA Bulletin (information for the press and public on developments in the Agency and in the Member States)

Copies of all Agency publications are given to the governments of Member States and to depository libraries nominated by Member States. A fully indexed annual publications catalogue, plus the fact that payment for all sales publications may be made in the national currencies of Member States, make the Agency publications readily available to all.

8.2.5 Nuclear Data Section

The Nuclear Data Section (NDS) of the IAEA Divison of Research and Laboratories has primary responsibility for the promotion of the dissemination of nuclear information and for the co-ordination of individual national nuclear data programmes, with specific emphasis on neutron physics.

In this context the NDS provides data centre services to a defined part of the world, and together with three other regional data centre, the ENEA Neutron Data Compilation Centre at Saclay (France), the USSR Nuclear Data Centre at Obninsk and the National Neutron Cross Section Centre at Brookhaven, co-operates in a systematic world-wide collection, compilation, dissemination and exchange of neutron data and related information.

8.2.6 Computer section

The Agency has an IBM 360/30 computer, which is used in almost all of its information and documentation activities, The Library uses the computer in the preparation of its acquisitions list, its printed catalogue, its journal holdings, its film catalogue, etc.

Other Agency departments have computerized various aspects of their information activities, e.g. the Hydrology, Reactor Data, Plant Breeding Sections.

The Hydrology Section collects Tritium data and basic hydrometric data, which is published in the Technical Report Series of the Agency. The Reactor Data Unit collects information on reactors throughout the world and this is published in the form of handbooks in the IAEA series.

INIS is a computer-based system, and with the exception of microfiches, all of its printed output is computer produced. The Nuclear Data Section is also a computer user for the preparation of its documentation.

The computer has become an integral part of the information and documentation activity of the Agency and its rôle is constantly growing in the information area.

The IAEA has an arrangement with the European Nuclear Energy Agency under which the services of the ENEA Computer Program Library at Ispra (Italy), are made available to Member States of the IAEA. The Library collection includes 759 programmes designed for calculations related to nuclear reactors.

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INFORMATION AND DOCUMENTATION SERVICES FOR INDUSTRY

PART I

INFORMATION AND DOCUMENTATION SERVICES FOR INDUSTRY IN CMEA MEMBER COUNTRIES [1]

by

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Organized in co-operation with the Iranian Government

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[1] The views and opinions expressed in this paper are those of the author and do not necessarily reflect the views of the secretariat of UNIDO. This document has been reproduced without formal editing.

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INTRODUCTION

With scientific and industrial progress, the constantly growing number of people and increasing amount of material resources being involved in the sphere of industry and science it is necessary to develop industrial and scientific information systems in all countries. This, together with the so called "information explosion" resulted in the following two important consequences: considerable increase of the role played by information work in maintaining high rate of development in industry technology and science; development of information work into a separate type of scientific work, as well as the creation of information science - an independent scientific discipline, elaborating the theory and methodology of information work.

The major tasks of scientific information work, independent of various organizational principles, methods and technical means used in various national systems of scientific and technical information, have a common international nature. These tasks can be grouped as follows:*

- Considerable increase in effectiveness of scientific information work;
- Elaboration of methods and means to overcome growing "Language barriers";
- Development of modern means for information storage retrieval and dissemination;
- Optimization of the structure of regional, national and mission oriented systems of information;
- Creation (on the basis of national and regional systems) of a world-wide network of scientific and technical information.

This report examines various national technical and scientific information systems, i.e. systems for gathering, accumulation, processing and distribution of technical and scientific ideas and data generated by men in the course of technical and scientific development.

All these national systems employ differing organizational principles which correspond to the national character and economic and scientific level of each country, but the exposition will show that no technical and scientific progress is possible today without an advanced information system.

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* "Draft of the new FID programme".

CMEA MEMBER COUNTRIES AND YUGOSLAVIA

The scientific and technical information in CMEA member countries is evolving as an independent scientific trend. This trend is becoming increasingly indicative of the co-operation of the information services in the socialist countries with the huge army of workers in science and engineering. A comparative analysis of the organizational set-ups of scientific and technical information in CMEA member countries revealed that the initial situations during the organization of information varied rather strongly in different countries.

These variations have conditioned the different conceptions in the organization of information work. However, in the course of subsequent development the national scientific and technical (industrial) information (STI) systems of the socialist countries tended to become uniform and the general concepts inherent in the socialist system more pronounced.

These concepts are exemplified by:

- The State character of information services in the field of science and technology;
- The centralized management of scientific information activities;
- The direct dependence of STI system organization on the organization of science and the national economy generally;
- The organization of scientific information activities on a scientific basis;
- The centralization of abstract services, and
- The development of specialized information systems within the framework of a unified State system of scientific and technical information.

It should be noted that the collaboration of socialist countries in the STI field and the wide exchange of experiences among information agencies in these countries have a favourable effect on the development and improvement of the system and organization of information communication.

THE UNION OF SOVIET SOCIALIST REPUBLICS

The State system of scientific and technical information which is generally guided by the State Committee for Science and Technology of the USSR Council of Ministers, incorporates a number of all-Union information bodies. These include the All-Union Institute for Scientific and Technical Information of the USSR Council of Ministers State Committee for Science and Technology and the USSR Academy of Sciences (VINITI); the All-Union Research Institute for Technical Information, Classification and Coding of the USSR State Committee on Standards, Measures and Gauges (VNIIKI); the Central Research Institute for Patent Information and Technico-Economic Studies of the USSR State Committee on Invention and Discoveries (CNIIPI): the All-Union Scientific and Technical Information Centre of the USSR Council of Ministers Committee for Science and Technology; the Scientific Information Institute for Social Sciences of the USSR Academy of Sciences, etc.

VINITI holds a position of prominence among all State information agencies.

At the moment VINITI is a leading organization within the State system of information.

Eighteen years ago, on 19 July 1952, the Council of Ministers of the USSR adopted a decree on the organization of a scientific information institute under the authority of the USSR Academy of Sciences. The past eighteen years have been the years of the VINITI evolution, of accumulation of hard-won experience in abstraction, assimilation and study of the world scientific and technical literature, in the development of special methods for the processing of a multidisciplinary flow of information sources.

Along with research and organizational activities VINITI is currently engaged in vast abstracting work covering the world scientific and technical literature. Here the Institute's tasks are sharply defined. These are provision of specialists with exhaustive scientific and technical information, publication of abstract journals, express-information bulletins, "Science Results" reviews, production of bibliographic cards and of other information documents.

Abstract journals are the most fundamental information publications. They provide abstracts, annotations and bibliographic references for articles, collections, monographs and patents appearing in almost all countries of the world.

There is no abstracting service in the world that could rival the VINITI Abstract Journal in size or coverage. It enables the reader to keep track of the literature in his field of science or technology with the least expenditure of time.

CNIIPI, Committee on Inventions and Discoveries of the USSR Council of Ministers, performs the following:

- Systematic analysis and generalization of the world patent literature;
- Examination of the technico-economic efficiency of domestic and foreign inventions and discoveries;
- Complete processing of patent collections including microfilming;
- Co-ordination of translation of patent materials;
- Organization of reference and information services on the patent resources of the USSR and popularization of industrial and technological advances reflected in the authors' certificates and patents;
- Development of mechanization means for patent information services.

CNIIPI issues:

(a) Specifications of the authors' certificates for domestic inventions;

(b) "Bulletin of Inventions and Trade Marks";

(c) Translations into Russian of several foreign patent periodicals;

(d) Information on current foreign patents (on bibliographic cards), and

(e) Reviews and tabulations of patent specifications.

VNIIKI, Committee on Standards, Measures and Gauges, USSR Council of Ministers, provides information on State standards, normals, normative documentation on instrumentation, the Council for Mutual Economic Assistance (CMEA) recommendations on standardization, the International Organization for Standardization (ISO) foreign standards and recommendations, and specifications and revisions of State standards. The information is published in collections, express-information bulletins and on bibliographic cards. In addition topical reviews of foreign literature on problems of standardization, metrology, classification and coding are issued.

CINIS, USSR State Construction Committee, abstracts domestic and foreign literature on construction and architecture and produces abstract cards and an express-information bulletin on foreign building practices. Along with this the Institute issues printed cards on completed research projects, design and development projects in industrial construction, and interdisciplinary problems of construction.

VNIIMI, USSR Ministry of Public Health, publishes an abstract journal, abstract cards, bibliographic cards, an express information bulletin, and scientific surveys on medicine and medical technology.

VINTISKh, USSR Ministry of Agriculture, issues the same kinds of publications as VNIIMI but covering agriculture.

VNTIC, USSR Council of Ministers State Committee for Science and Technology, accomplishes the following:

- Building of a collection of unpublished R & D reports;
- Registration of all current and completed R & D projects in the country;
- Preparation of state-of-the-art reports on R & D programmes on demand;
- Publication of information materials;
- Production of statistical information.

The Scientific Information Institute for Social Sciences performs:

- Acquisition and abstracting of domestic and foreign materials on social sciences, primarily on the philosophical, economic, historical and legal sciences, and scientific communism;
- Preparation and publication of bibliographic and abstract publications, scientific-analytical literature reviews on topical problems in social sciences, production of translations and photocopies of the most important scientific works;
- Information services for party and State bodies, research institutions, academic institutions, scientific and teaching personnel;
- Co-ordination and theoretical generalization of working experience in the field of social sciences information;
- Establishment of scientific ties with foreign information bodies.

The State Public Library for Science and Technology of the USSR (GPNTB) and the All-Union Book Chamber can be viewed as all-Union information agencies. They provide:

- Scientific and technical literature and reference services;
- Co-ordination of bibliographic work in the field of engineering and methodological guidance of the country's technical libraries.

The USSR All-Union Book Chamber is an all-Union centre for State recording bibliography. Its main tasks include:

- Registration of all printed materials appearing in the USSR;
- Organization of bibliographic information on the literature published in the USSR;
- Centralized cataloguing of all current literature;
- Elaboration of problems in the methodology and techniques of library work;
- Reference services for all institutions and organizations in the country.

The All-Union Book Chamber's bibliographic publications are: "Book Annals", "Annals of Newspaper Articles", "Annals of Journal Articles", "Soviet Bibliography", and bibliographic cards for library catalogues.

The all-Union STI agencies generate a downward flow of information materials on published and unpublished sources.

In their most advanced form specialized information centres are research institutes for information and technico-economic studies. Such a profile of specialized information centres permits technico-economic analyses be made of the development level of an industry as a whole, of separate important problems and of industrial processes and technologies and products, as well as provides for correct selection and evaluation of information from the point of view of the economic effect of its application in industry, research and design work. Along with this, information institutes conduct research and methodological work towards refinement of the information system for their particular industrial branch, and development of specialized systems for document classification, mechanization and automation of information processes.

At present, apart from research institutes for information and technico-economic studies (chemical, oil and gas industry, ferrous and non-ferrous metal industry, coal industry, radio-electronics, timber and paper making industry, etc.) there exist research institutes for information (e.g. for mechanical engineering) central institutes of scientific and technical information (in the light and food industries, in railway transportation, on construction and architecture), divisions, departments, sectors, laboratories, offices of scientific and technical information at leading research institutes which discharge the duties of specialized information centres (in the electrical engineering, aircraft industries, etc.).

The main functions of specialized information centres are processing and generation of information on the achievements of enterprises, research and development institutions.

Specialized information centres produce and disseminate to factories and organizations in their particular industries bibliographic, abstract and review information on the topical problems of development of their industries, based on the analysis, systematization and generalization of unpublished materials on new products manufactured by the industry, results of research and development activities, progressive methods, technico-economic indices of enterprises, as well as information on materials of all-Union information centres drawing on domestic and foreign sources.

Thus a downward flow of information on unpublished materials is formed within an industry.

The total number of specialized information centres in the USSR is 100.

The organization, structure, and tasks of a specialized information centre are typified by the system of scientific and technical information in the machine-tool industry.

Proceeding from the basic principles of organization of the STI system, the main lines of information activities in the machine-tool industry are: provision of the engineering staff, industrial innovators and rationalisers, and trained workers at enterprises with timely information on results of research and development and design work which are subject to introduction in production, on new advanced methods in technology, organization and economics of production, on new standards, normals, branch and inter-branch guiding and normative materials, and on achievement of industrial innovators and rationalisers.

Creators of innovative technology - designers, research workers, planners of new methods, technologies and organizational set-ups in industry - must be supplied with operative and full information on the most recent achievements of domestic and foreign science and technology, on new inventions and patents, on the technological level and economic efficiency of similar products and their components, on work methods in other branches of industry at home and abroad, on trends and findings of research, development and design work at allied enterprises (organizations).

The scientific and technical information services also provide the consumers of the machine-tool industry products (within the country) with regular catalogue, reference and review information on new products coming on the market. It contains technical specifications of products and highlights their advantages over previous models, as well as gives recommendations on the most effective application and use.

This information, including data on the organization of systematic quality advertising for the machine-tool industry products within the country and abroad, provides the top management personnel at the Ministry and at organizations coming under its authority with concrete technico-economic data containing a comparative analysis of the basic technico-economic indices in the given field (inside the country and abroad), economic situation surveys, generalized technological production, and economic data on results of work of separate industries, enterprises and so on.

The general management of information activities in the machine-tool industry is effected by the Ministry's Technical Office through the main branch offices, the Information Research Institute for Mechanical Engineering (NIIMASh), STI departments (ONTI) at leading R & D institutes, and offices (departments) of scientific and technical information (BNTI, ONTI) at industrial enterprises (syndicates), research, development and designing institutions.

NIIMASh is the central specialized STI agency for mechanical engineering. It provides for scientific systematization, analysis and generalization of all information sources on subjects of concern to the industry, in order to disseminate these to factories, R & D institutions and design offices in a form which is most suitable for practical utilization. The Institute conducts research and methodological work aimed at improving the branch system of scientific and technical information, introducing mechanization and automation in information work, and increasing the efficiency of information. It also provides methodological guidance to and co-ordinates the activities of all STI services within the industry, by establishing inter-industry connections and information exchange with all-Union, republican and regional information bodies. The Institute is responsible for the quality of information materials produced, their timely dissemination to enterprises and organizations within the industry, as well as for a proper level and development of the specialized system of scientific and technical information.

ONTIs at leading institutions are the basic STI bodies in their respective branches of industry.

An ONTI has the following main tasks:

- Organization of the most complete and timely utilization of domestic and foreign information by research workers and specialists and the leading institute and enterprises in their research and development work;
- Searching, processing, systematization of information materials and their presentation to the users by such techniques and procedures as will reduce the time spent by researches and specialist on the study, analysis and generalization of information;
- Organization of the working out of information and guiding materials on results of R & D work performed by the leading institute, aimed at the introduction of these innovations in the appropriate industries;
- Reproduction of information and guiding materials on the leading institute profile, their distribution among the interested enterprises and control over their utilization;
- Popularization of results of work of the leading institute by way of exhibitions, technical conferences and meetings in the press and by television;
- Taking stock of the utilization of STI materials and the effect produced.

A BNTI (ONTI) at an industrial enterprise (syndicate) or a research and development institution performs the following tasks:

- Ensures the receipt of the necessary information and guiding materials and technical documentation;
- Systematizes the materials received, selects among them and forwards them to the appropriate divisions for practical utilization in production, research and development work in the given organization (research institute for design office);

- Popularizes scientific, technical and industrial achievements, provides for exchange of progressive work methods in shops, laboratories, experimental workshops of enterprises (research institutes, design offices);
- Takes care of the production and presentation to the leading institutes and the NIIMASh of scientific, technical, industrial and economic information on the results of work by the given enterprise (organization);
- Takes stock of the utilization of materials of scientific and technical information and popularization at the given enterprise (organization), and the effect produced.

Preparation and publication of information materials are made according to a unified summary plan. Such plans are drawn up every year by the NIIMASh jointly with ONTIs of leading institutes and are approved by the Ministry authorities.

Plans for the preparation and issue of information and technical materials are made with due regard for the development programmes of the industry, R & D projects, plans for the introduction of innovative technology, and the proposals of enterprises and organizations of the Ministry. They are also co-ordinated with the "Mashinostroyenie" (Mechanical Engineering) Publishers and the editorial boards of professional journals.

Publication of information and technical materials for dissemination to enterprises and organizations of the industrial branch and other interested users is accomplished in a centralized manner by the NIIMASh and the leading institutes.

NIIMISh co-ordinates publication of information and technical materials according to summary plans approved by the Ministry and co-ordinated with the USSR Council of Ministers State Committee for Science and Technology and the USSR Council of Ministers Committee on Press.

NIIMISh and leading institutes issue and circulate to enterprises and organizations specialized information and technical materials, as well as materials issued by inter-branch information bodies and information bodies in other branches of the national economy. The information flow is formed according to the subjects which are of interest to workers in the machine-tool industry.

The upward flow of information is generated on the basis of obligatory supply of scientific, technical, industrial and economic information by the Ministry's enterprises and organizations to the NIIMASh reference information collection.

In order to provide for the fullest possible supply of necessary reference information and technical documentation to specialists and authorities, a Central Specialized Reference Information Collection (RIC) is being built in the machine-tool industry, as well as collections at enterprises and organizations.

The Central Specialized Reference Information Collection is a systematically arranged file of printed materials and unpublished scientific and technical documentation. The RIC is used to collect and store materials on the machine-tool and related industries, technologies and productions. Such materials are concentrated in the Information Research Institute (NIIMASh), in the Central Scientific and Technical Library, and in the leading institutes of the Ministry of Machine Tool Industry of the USSR.

The NIIMASh reference information collection and the CNTB collection emphasize technical literature and general documentation, while the leading institutes of the industry concentrate on documentation on subjects corresponding to their particular profiles.

To ensure the most operative complex provision of the industry with materials of the Central Specialized Reference Information Collection, a common reference apparatus of the collection is built which includes the main reference bibliographic card file, special factographic card files and other search systems, and a single classification scheme for the whole collection is developed which indicates the primary documents.

The Central Specialized Reference Information Collection is a component part of the State reference information collection.

All enterprises and organizations that come under the authority of the Ministry take part in the building and maintenance of the Central Specialized Information Collection. They are obliged to submit to the NIIMASh information cards and technical documentation.

The Central Specialized Reference Information Collection uses, along with the Universal Decimal Classification, descriptor and other modern information retrieval languages.

A computer based centre of scientific and technical information and a telex station for communication with enterprises and organizations in the industry is being established at the NIIMASh. The centre will microfilm, and reproduce documents and supply them to users as microforms or microprints; it will also ensure prompt copying and duplication of documents using electrography, thermo-copying, offset printing and other modern techniques.

The reference information collections of enterprises and organizations in the industry are comprised of all stored and coming information and technical documents. They are arranged systematically and are reflected in the unified specialized reference apparatus. This enables not only the most complete and speedy retrieval of information and technical documents on the given organization (enterprise) profile, but also their supply when requested by groups or individuals.

Because of the multi-national character of the Soviet State, the special features of the economic progress in the different republics, and the working experience accumulated over the years, the network of republication institutes and regional organs of scientific and technical information are undergoing continued development.

Republican institutes occupy an important position.

Republican research institutes for technical information and technico-economic research differ from specialized information agencies in that they serve a multitude of industrial branches within a republic rather than one particular branch, which determines the nature of their activities.

A republican institute:

- Organizes the republican reference information collection with due regard for the peculiarities of economic development of the Union republic, and provides reference and library services to enterprises and organizations, primarily to those which are not covered by specialized information systems, and also to scientists, specialists and industrial innovators;
- Carries out technico-economic studies on problems of importance to the development of the republic's national economy, as well as on problems of scientific and technical information according to the co-ordination plan;
- Takes part in the organization of scientific and technical popularization in the republic;
- Promotes the utilization of information materials at enterprises, research and development institutions within the republic;

- Examines information materials of all-Union and central specialized information agencies as well as local experience with a view to drawing recommendations on the introduction of new technology and progressive techniques into the republic's national economy;
- Publishes information materials (in Russian and national languages) in subject-fields specified by the USSR Council of Ministers State Committee for Science and Technology;
- Maintains control over the introduction into production of the most important technical innovations adopted from information materials and the supply to central specialized information bodies of information cards on newly developed and adopted technical means, progressive technologies and advanced production practices, which are issued by enterprises and organizations in the republic;
- Provides methodological assistance to the republic's enterprises in the organization of information work according to standard regulations and other instructional documents;
- Organizes professional training and improving of professional skills of information officers at enterprises, organizations and departments within the republic.

In most cases the Institute is responsible for the administration of the Republican Scientific and Technical Library.

Inter-branch regional centres for scientific and technical information and popularization, as a rule, incorporate a central scientific and technical library, a house of technical popularization, and provide reference information and library services to enterprises and organizations in the autonomous republic, territory or area which come under their authority. With this aim in view a Centre builds a reference information collection which provides information on materials to scientists, specialists and industrial innovators irrespective of their organizational affiliation.

The Centre co-ordinates carrying out of measures on scientific and technical popularization within the territory served, issues according to regulations materials on exchange of production practices, and provides methodological assistance in the organization of scientific and technical popularization.

The departments (offices) of scientific, technical and economic information at enterprises, research and development and design institutions (ONTEI, BNTEI) are responsible for prompt information services to workers at enterprises, institutions, design offices on the most recent scientific and technological achievements in specific areas connected with their activities, and for control over the effective utilization of information materials in production, scientific and practical work; for participation in research and development work by searching, systematization, examination, analysis and generalization of information materials on the subject profiles of the given organization; for popularization of achievements of science and technology, progressive techniques, advanced labour and production organization methods; for promoting the exchange of experiences among allied factories and organizations.

Thus, a continuous upward flow of information on the achievements of enterprises, research and development institutions and design offices is generated.

Reference information collections (RIC), which are most complete collections of documents and their search patterns on subject fields of the corresponding information body are set up at all levels of information service. The totality of reference information collections of all-Union, specialized and republican information centres, regional centres, and information units at enterprises and organizations constitutes the unified reference information collection of the country.

The library stock is an integral part of the reference information collection of the corresponding information body and it is comprised of not only scientific and technical literature but of technical documentation as well.

Where an information unit is lacking at an enterprise or an organization the technical library will conduct all reference and information work.

THE GERMAN DEMOCRATIC REPUBLIC

The beginning of organized STI services in the German Democratic Republic (GDR) dates from 1960.

By 1963 a system of scientific and technical information had evolved in the GDR which included 207 information and documentation agencies. These performed a considerable amount of work.

Results of this work are reflected in 161 series of abstract cards, numerous technical literature reviews, and bibliographies. But the level of information activities still fell short of the needs of scientific and technological progress.

In 1963, the Council of Ministers of the German Democratic Republic adopted a decision, "On Further Development of the Existing Information System", which furnished the basis for the creation of a unified system of information on natural sciences, technology and economics in the country.

The Council of Ministers decree of 22 April 1965 "On Further Development of the Information and Documentation System for Social Sciences Existing in the GDR" instituted a Centre of Information and Documentation at the German Academy of Sciences charged with the function of methodological guidance of information bodies in the field of social sciences.

These important decisions laid down the foundation for the creation of a state-wide system of information for the natural sciences, engineering, economics and social sciences. The State Secretariat for Science and Technology (now the Ministry of Science and Technology) was made responsible for the management of the scientific and technical information system. It was also obliged to implement a uniform concept of the development and improvement of an information system for science, technology and economics and its organic incorporation into the State system of information. The Central Institute for Information and Documentation (ZIID), which is under the authority of the Ministry, performs the functions of a guiding and co-ordinating centre for all information activities in the field of science and economics.

ZIID has conducted work towards the development of an information system for the natural sciences, economics and engineering based on uniform methodological and organizational principles. The main tasks of ZIID are:

- Elaboration and refinement of scientific, technical and methodological foundations of information and documentation; drawing and realization of a programme for the development of improved methods and techniques of scientific, technical and economic information; co-ordination of research and development projects in the field of information, particularly on problems of mechanization and automation;
- Assistance to the Ministry of Science and Technology in the creation of a uniform system of professional training for information and documentation work, in popularization of all potentials and means of information in specialized colleges and institutes, as well as assistance to State and public bodies in implementing measures for improving the skills of their personnel in the field of information and documentation;

- Collaboration with the corresponding central information agencies of CMEA member countries.

ZIID has worked out the organizational and methodological principles of information work, the most important of which are reflected in the Standard Regulations on Information Departments, Central Offices of Information and Documentation, Specialized Centres of Information and Documentation".

The activities of ZIID have been aimed at upgrading of information service, elimination of parallelism and duplication in the work of information and documentation centres, co-ordination of their activities, publication of pinpointed information, establishment of close collaboration of central State information bodies - especially in the sphere of industry - with information bodies in the academic field, with the German Academy of Sciences, with the country's libraries, and with organs carrying out organizational and methodological guidance of libraries.

Great attention is paid in the GDR to the establishment and development of specialized information systems which are basic links within the statewide information system.

Information provision of a branch of industry is accomplished by the following categories of information bodies: specialized information and documentation centres, central offices of information and documentation and information departments. Specialized information and documentation centres, which are methodologically guided by ZIID, are responsible for the activities of all information bodies in their subject field and carry out administration of central offices of information and documentation. The latter in turn provides methodological guidance to information departments at enterprises and control and co-ordinate their activities.

By now scientific and technical information agencies have been created in all major industries of the country. There are 31 specialized information centres at central State and research institutions, 152 central information offices at large research centres and people's enterprise administrations, 953 information departments and 2252 information commissioners at research institutes and enterprises.

Specialized centres provide guidance in the building of information departments and central information and documentation offices, exercise control over the acquisition of foreign scientific and technical literature according to the information needs of the branch, co-ordinate information work with other branches, conduct research in the field of information and develop various forms of collaboration with research libraries in the GDR.

Central Offices of Information and Documentation (ZBID) are required to give assistance to and to co-ordinate information departments, to process, publish and disseminate information materials coming from information departments, to co-ordinate the acquisition of foreign scientific and technical literature by information boides, and to carry out measures on professional training and improvement of professional skills of information officers. According to "Standard Regulations" a ZBID may comprise a technical library. The latter builds the information collections and places them at the disposal of the information body.

ZBID organizes its work in close contact with specialized information centres which are responsible for the methodological guidance and co-ordination of the activities of information offices.

The network of information departments is constantly expanding in the GDR. Great attention is paid to the improvement of operations of information departments, which is carried out through the introduction of novel information technology.

Information departments are set up by the administration at enterprises, research institutions and establishments. They are directly subordinate to the technical director at enterprises, and to the director at research institutes.

The main functions of information departments at enterprises, research institutions and establishments can be reduced to the following:

(1) To keep track of the achievements of science and technology in the fields of interest to the enterprise or institute;

(2) To identify the information needs of all categories of users at a factory or institute;

(3) To produce information on the most important problems of concern to the enterprise or institute;

(4) To provide the institute or enterprise with state-of-the-art reports on the most important problems of progress of the world science and technology;

(5) To co-ordinate information activities of divisions of the enterprise or institute.

Special importance is attached to practical utilization by the enterprise of information on scientific and technical innovations.

Speedy communication of scientific and technical achievements to specialists and scientists depends to a large degree on efficient organization of the work of all information officers. An important role in the provision of information to the users is played by information commissioners. These are picked among the personnel of large enterprises, where the information department is unable to cope with the whole amount of information work. In this case the network of commissioners is a connecting link between the information department and the major structural units of the enterprise. At small enterprises commissioners are required to discharge the functions similar to those of an information department.

The duties of a commissioner include:

- Organization of examination of information sources by specialists;
- Study of information needs at the enterprise;
- Popularization of information and its communication to the users;
- Training of users in the utilization of information materials.

One of the tasks of a specialized information agency is the supply of information to authorities. This information is generated by information bodies at different levels: specialized centres, offices and departments of information. This kind of information is regarded as a very important one in the GDR; experience of advanced information centres in the production of such information is studied and generalized.

THE POLISH PEOPLE'S REPUBLIC

Prior to 1960, the scientific and technical information work in the Polish People's Republic (PPR) had been decentralized. A new phase in the development of the STI system began in 1960, after the PPR Council of Ministers decree "On the Organization of Technical and Economic Information".

All information work in the country is presently organized and guided by the PPR Council of Ministers Committee for Science and Technology, or more specifically, by the Office for Scientific and Technical Information and Collaboration with Foreign Countries under the Committee. The State system of STI has the following structure.

The leading information agency in the country is the Central Institute of Scientific, Technical and Economic Information (CINTEI). It performs the functions of a co-ordinating and methodological centre to which all information bodies within the country are subordinated. It works out a uniform methodology of information work, co-ordinates the activities of specialized information bodies and takes care of the training of information specialists for the whole country. CINTEI represents Poland in international organizations and collaborates with foreign information centres.

Departmental information centres mainly discharge organizational and administrative duties. They plan and organize the work of information bodies which come under their authority. Conjointly with CINTEI they work out topical plans for information work within their departments: they co-ordinate working plans of the specialized centres within their departments; prepare drafts of normative documents determining aspects of organization and work of the information services of departments; exercise control over specialized information bodies within the given department; promote the exchange of experiences and materials among specialized information centres; control the use of information materials in specialized centres; develop recommendations concerning the organization of specialized centres, and provide with necessary personnel, finances and equipment.

Specialized information centres are basic to the information system of every branch of the national economy. Their tasks include gathering, analytico-synthetic processing and dissemination of information in the subject fields of their branches. Specialized information centres have been set up at research institutions, large design offices and other organizations which form part of branch-oriented syndicates.

Industrial information centres are established at large enterprises and design offices which are required to meet the needs of their enterprises for information on scientific and technical achievements, on new inventions, standards, etc. Industrial centres present information on the production experience and all achievements to their specialized centres, where this information is processed and disseminated to all information centres within the branch. Industrial centres base their activities primarily on the materials of the corresponding specialized centre.

The national STI system in the GDR comprises approximately 1800 information agencies of all kinds, including 23 departmental, 161 specialized and about 1600 industrial centres.

THE HUNGARIAN PEOPLE'S REPUBLIC

The Hungarian national system of scientific and technical information had its origins shortly after the establishment of people's democracy in the country.

The government decree of 29 June 1949 determined the general structure of this system. Later, a general Documentation Centre was instituted to take charge of the information work in the country and to initiate development of co-ordination in information.

In 1957, the National Committee was established which took on national membership in the FID, while the Hungarian Central Technical Library became the central agency in the field of scientific and technical information in the country. Thus, in the Hungarian national system of scientific and technical information, information work in the field of scientific and technical literature on the one hand, and conventional library work on the other, are carried out by a single body, namely the Hungarian Central Technical Library and Centre of Technical Documentation (HCTL/CTD).

At present the HCTL/CTD performs the functions of:

- A specialized scientific and technical library;
- An information centre in the field of technical literature;
- A methodological and co-ordinating centre for the library and information services in the country.

Extensive work is being carried out on the popularization of technical literature. Along with a monthly list of accessions, recommendatory bibliographies are issued, such as the bi-monthly "Scientific and Technical News" (prepared by the service department), and "History of Science and Technology".

In its capacity of the national information centre for special technical literature the HCTL/CTD carries out analytico-synthetic processing of primary literature and - on their basis - production of specialized information publications of different kinds and directions. These directions include abstract publications, reviews, and current abstracting services on specialized subjects.

In its capacity of a methodological and co-ordinating centre for information and library services, HCTL/CTD guides the activities in this field which are being conducted by special libraries of research institutions and industrial enterprises. It is also responsible for discharging the duties of a national co-ordinating centre in the field of technical translation.

Considerable attention is paid to research in information work which has the aim of developing and introducing the most effective means and procedures for documentary information processing and mechanization of information work.

Besides the enumerated directions, concerned with the development of library and information services on a national scale, HCTL/CTD represents the Hungarian STI services abroad and in international organizations.

HCTL/CTD exercises control over professional training of special librarians and information officers.

The statewide network of information centres was established in 1962 by appropriate government decrees. The government agency to assume guidance for the country's information bodies was the State Committee for Technological Development. The Committee effects co-ordination of information work within the country through HCTL/CTD, the leading STI agency.

Specialized information systems are guided by departmental STI agencies which discharge mainly administrative functions.

Specialized information systems are based on specialized information offices on factories which provide for the processing of all technical literature in their subject area.

THE CZECHOSLOVAK SOCIALIST REPUBLIC

Prior to 1959, all information services for the industry in the Czechoslovakia Socialist Republic (CSSR) were provided primarily by technical libraries and the institute of technical and economic information. In 1959, a government decree ruled the establishment of the Committee for Technological Development (which was later to become State Committee on Technology) which was charged, among other tasks connected with technological progress, with organization of a unified State information system in the country.

At present the scientific and technical information system in the CSSR is comprised of the following information bodies:

- Statewide specialized information bodies;
- Guiding information agencies of departments;
- Specialized centres of technical and economic information;
- Technical and economic information units at enterprises.

The State Committee on Technology takes care of methodological guidance and co-ordination of all these activities on a countrywide scale.

Immediately subordinate to the Committee are a number of central agencies for scientific and technical information:

- Centre of Scientific, Technical and Economic Information which was created in 1966 by merging the Institute for Technical and Economic Information with the State Technical Library;
- Office for Inventions and Patents which provides information services to industry by collecting and disseminating the world patent literature;
- Office for Standardization of Measures which provides information services to industry by collecting and disseminating the world literature on industrial standards and norms.

The basic components of the specialized information service in the CSSR are specialized centres of technical and economic information. By processing technical literature the centres publish a variety of information materials - from topical reviews and bibliographic lists to a regular series of abstract cards. There are more than 230 specialized centres of technical and economic information in the CSSR to date.

The lowest level of the organizational set-up is occupied by production information units which provide information services at factories, design offices and other production units of the national economy. Their tasks include: organization and maintenance of technical libraries, supply of information materials to all personnel of the enterprise and development of all forms of technical and economic popularization.

At the present stage in the development of information services the activities of deparmental information bodies are largely organizational and administrative in character.

THE SOCIALIST REPUBLIC OF ROMANIA

General direction of the information activities in the Socialist Republic of Romania is exercised by the State Planning Committee. The Committee assigns specific fields to central specialized information agencies. Methodological guidance of the scientific and technical information services in the country is the duty of the Institute of Technical Documentation which is directly subordinate to the State Planning Committee. This institute also supplies information on the recent advances of the world science and technology to the branches of the national economy, research institutes, and enterprises. It publishes a multidisciplinary abstract journal, and co-ordinates and controls scientific and technical information activities and international relations. Centres for scientific and technical information have been established in separate branches of industry, which co-ordinate the work of documentation departments. The latter are formed at research institutes, large design and development offices, and at factories. Documentation departments are basic information bodies in Romania.

THE PEOPLE'S REPUBLIC OF BULGARIA

It was quite recently that a unified system of scientific and techncial information was created in the People's Republic of Bulgaria. The State Committee for Science and Technological Progress was established in 1959 by a government decree, charged with the guidance of all information agencies in Bulgaria, as well as organization of international co-operation and collaboration in information work with CMEA member countries. In 1962, a unified three-level State system of scientific and technical information was developed in the country. The system incorporates scientific and technical information institutions, central specialized information agencies, and technical information units at enterprises.

Central institutions for specialized scientific and technical information in Bulgaria include: the Institute for Standardization, Measures and Gauges, Institute for Inventions and Rationalization which is responsible for information on patents, and the Central Institute for Scientific and Technical Information (CINTI) which is the leading body in the specialized information network. The Institute's tasks include:

publication of abstract bulletins in different areas of science and technology and the publication of technico-economic surveys on the current state and development of separate branches of science and industry, as well as collections of abstracts for sources published in Russian and Western languages; co-ordination of work and methodological guidance of specialized bodies of scientific and technical information and the maintenance of international ties. A number of scientific and technical information centres have been set up in separate branches of the national economy. They issue abstract newsletters and reviews of specialized foreign literature.

Within Academies of Sciences systems corresponding information centres have been established which provide scientific information for a particular branch of science. Thus, a centre of scientific information and documentation has been set up at the Bulgarian Academy of Sciences, a centre of agricultural scientific and technical information and documentation at the Academy of Agricultural Sciences, etc.

THE SOCIALIST FEDERAL REPUBLIC OF YUGOSLAVIA

The Centre of Technical and Scientific Documentation (incorporating the Central Technical Library) which was formed in 1950, is engaged in co-ordination of information and documentation activities in Yugoslavia, as well as elaboration of methodological foundations of information. The Centre comes under the authority of the Committee on Scientific Documentation and Information which is part of the Union Council on Co-ordination of Research Activities.

The Centre of Technical and Scientific Documentation has a large reference information collection which contains 15,000 volumes of technical literature, 300 titles of information and abstract bulletins and 3,000 titles of major Yugoslav and foreign periodicals. The Centre processes the journals received and issues a monthly bulletin in 11 series, including 10 industrial series: "Building Technology", "Transport Equipment", "Electrical Instruments", "Mining", "Metallurgy", "Chemistry and Chemical Industry", "Glass and Ceramics Production", "Textile and Paper Production", "Food Industry", and "Forestry and Agriculture".

The Centre fulfills document reproduction orders using modern equipment.

The Centre has extensive ties with industrial enterprises; 1500 factories make use of its services at the moment. The Centre also provides methodolgoical assistance in the establishment of information services at separate enterprises.

There are also specialized information centres in Yugoslavia, which provide information to rather limited but important branches of the national economy. A typical example is the ship-building information service.

Thus, the information system in Yugoslavia is structurally akin to the information services of the CMEA member countries.

SUPPLEMENT

Information and documentation services for industry in CMEA member countries

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Характеризуется структура общегосударственной информационной сети ЧССР, а также влияние автоматизации и механизации на развитие информационной деятельности. Илл. 1. По резюме

69.4.216. **[Научная и техническая информация в ЧССР].** Volný Jaroslav. Rozhovor. «Bull. techn. a ekon. inform.», 1968, № 6, 1—13 (чешск.)

Оценивается общее состояние системы научной и технической информации в ЧССР и отдельных направлений информационной деятельности. Подводятся итоги двухлетнего существования Центра научной, технической и экономической информации. Перечисляются основные задачи, стоящие перед ним. Отмечаются некоторые особенности деятельности Центра в условиях новой системы управления народным хозяйством. Рассматривается деятельность Центра в области международного сотрудничества и описываются функции недавно организованного в Праге Центра французской научной и технической документации. А. Ю.

69.12.250. **Информационная проблематика в плане по науке и технике ЧССР.** Stefánik Vladimir. Planung der Information und Dokumentation im Plan der Wissenschaft und Technik der CSSR. «Dokumentation/Information. Schriftenr. Inst. Dokum., Patentwes. und Recht Techn. Hochschule Ilmenau», 1966, [№ 6], 37—62 (нем.)

Описаны принципы и методика планирования информационной деятельности в ЧССР. Вопросами планирования занимается Государственный комитет по науке и технике. На курсах по подготовке информационных кадров при Пражской и Братиславской библиотеках слушатели знакомятся с принципами планирования работы информационных служб и информационной деятельности вообще. Рассматриваются основы планирования в области информационной теории и практики, основные задачи информационной деятельности, ее место в государственной системе науки и техники. Описаны принципы наиболее рационального информационного обеспечения развития важнейших отраслей народного хозяйства, науки и техники. Особое место занимает проблема планомерной и всесторонней подготовки информационных кадров. Отмечается, что единое методическое руководство информационной деятельностью приобретает особое значение при децентрализованной информационной системе, получившей широкое распространение в социалистических странах. Анализируются основные принципы оптимального планирования и координирования деятельности информационных служб, методического руководства их работой. При планировании работы информационных служб предусматривается включение вопросов, связанных с комплектованием информационных фондов, выпуском информационных материалов, выполнением переводов, осуществлением информационного поиска, распространением информации, информационным обеспечением научно-исследовательских и проектно-конст-

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investigated. Research in information science is guided and co-ordinated by the Institute of Technical and Economic Information of CSSR. Information planning is an important factor of promoting scientific and technological progress. The paper contains syllabuses for «Planning the operation of information services» and «Information problems within the plan for the promotion of science and technology» as formulated by the State Technical Library in Prague. A general scheme is proposed for planning all types and forms of information activity, including supply of information on all major subjects, funds and facilities for information, acquisition, translations, information retrieval to request, publication of reports and other materials, etc. Yu. Dobrushin

69.4.220. *Mining information services.*— Nachtmann, Joseph. Zprávy informační soustavy informační služby v resortu hornictví. «Bull. techn. a ekon. inform.», 1968, No. 6, 26—31. (In Czech).

A list is provided of specialized information centres of CSSR in mining, geology, gas and mineral industries. The existing patterns of information centres within the fields are described. The following problems are discussed: qualifications of the information staff, some projects for mechanizing information processes by way of punch-cards and medium-size computers, duplication of documents. A. Yu.

69.4.221. *Scientific and technical information in the field of transportation.*— Fišer, Josef. VTEI v dopravě. «Bull. techn. a ekon. inform.», 1968, No. 6, 41—50. (In Czech).

Branch and specialized transport information centres of CSSR are listed. The problems dealt with by each of these centres are described. The following activities of the Bureau International de Documentation des Chemins de fer (International Railway Transport Documentation Centre) are considered: reference and publication services (as of 1967), steps towards closer co-operation between the information centres of the members of the International Railway Alliance, and in the field of automation of information processes. International co-operation in scientific and technical information within the Union of Railways of Socialist Countries is described, including the exchange in information sources, reports, joint preparation of a railway dictionary in the languages of the member-countries, preparation of a branch UDC publication, standardization of terminology. A. Yurko

69.6.203. *Major tasks of the Engineering Information Institute.*— Mikešová, Ludmila. Koncepce, koordinace a soustava informačních pracovišť jak dál ve strojírenství? «Bull. techn. a ekon. inform.», 1968, No. 7—8, 8—13. (In Czech).

The structural pattern of the scientific and technical information system in the field of mechanical engineering in CSSR is analyzed, and the role of the Engineering Information Institute within this system is defined. Main functions of the Institute include information for management, building primary and secondary information sources, research in information, coordination of information throughout the field, cooperation with other member-countries of COMECON etc. Such functions at the centralization of document dissemination, that of an engineering patent centre, etc., are unique. A. Yurko

рукторских работ, публикацией новых работ, научно-технической и экономической пропагандой, проведением исследований в области информатики. Исследуются принципы финансирования информационной деятельности. Руководство и координацию работ по исследованию проблем информатики осуществляет Институт технической и экономической информации ЧССР. Планирование информационной деятельности является важным средством стимулирования дальнейшего развития науки и техники. Публикуются программы курсов «Планирование работы информационных служб» и «Информационная проблематика в рамках плана по науке и технике», разработанные Государственной технической библиотекой Праги. Дается типовая схема планирования всех видов и форм информационной деятельности, включающая информационное обеспечение по основным проблемам, материально-техническое обеспечение информационной деятельности, ее финансирование, комплектование фондов, выполнение переводов, поиск материалов по запросам, издание отчетов и других материалов и др.

69.4.220. **Информационные службы в области горной промышленности.** Nachtmann Josef. Zprávy informační soustavy informační služby v resortu hornictví. «Bull. techn. a ekon. inform.», 1968, № 6, 26—31 (чешск.)

Приводится перечень специализированных информационных центров ЧССР по горному делу, газовой промышленности, геологии промышленности добычи минерального сырья. Оценивается сложившаяся организационная структура сети информационных центров отрасли. Рассматриваются следующие вопросы: квалификация информационных работников, некоторые проекты механизации информационных процессов на основе применения СПМ и средних ЭВМ, проблема размножения документов. А. Ю.

УДК 002:656(437)

69.4.221. **Научно-техническая информация в области транспорта.** Fišer Josef. VTEI v dopravě. «Bull. techn. a ekon. inform.», 1968, № 6, 41—50 (чешск.)

Приводится перечень отраслевых и специализированных информационных центров ЧССР в области транспорта. Характеризуются проблемы, решением которых занимается каждый из этих центров. Рассматривается деятельность Международного документационного центра по железнодорожному транспорту (Bureau international de Documentation des Chemins de fer): информационно-издательская (по данным за 1967 г.), по укреплению сотрудничества между информационными центрами стран, входящих в Международный железнодорожный союз, и в области автоматизации информационных процессов. Характеризуется международное сотрудничество в области научно-технической информации в рамках Объединения железных дорог социалистических стран (обмен источниками информации, отчетами, подготовка железнодорожного словаря на языках стран Объединения, подготовка отраслевого издания УДК, упорядочение терминологии). А. Юрко

69.6.203. **Основные задачи Института информации в области машиностроения.** Mikešová Ludmila. Koncepce, koordinace a soustava informačních pracovišť jak dál ve strojírenství? «Bull. techn. a ekon. inform.», 1968, № 7—8, 8—13 (чешск.)

Анализируется структура системы научно-технической информации в области машиностроения в ЧССР и определяется место в этой системе Института информации в области машиностроения, являющегося отраслевым центром информации. Раскрываются основные направления деятельности института по информированию руководящих работников отрасли, комплектованию фондов первичных и вторичных источников информации, исследованию и рационализации научно-информационной деятельности, координации информационной деятельности в отрасли, сотрудничеству с соответствующими центрами в странах — членах СЭВ и т. д. Отмечается новизна некоторых функций (централизация распространения документационных материалов, выполнение функции патентного центра в области машиностроения и др.), возложенных на Институт. А. Юрко

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GERMAN DEMOCRATIC REPUBLIC

69.1.252. *The scientific and technical information system — its results and prospects*: Heutehaus, Kurt. Das Informationssystem Wissenschaft und Technik — Rüskschau und Ausblick. «ZIID-Zeitschrift», 1968, *15*, No. 4, 142- 145. (In German).

Results of the realization, by the Central Information and Documentation Institute and other GDR information services, of the decision of the Council of Ministers of August 6, 1963, on the development of the national scientific and technical information system, are summed up. Some data are cited on the state-of-the-art and objectives of the system in 1968. A. B.

69.9.224. *Patent information in GDR.*— Кузнецова О. Е. Организация патентной информации в ГДР. «Вопр. изобретательства», 1969, № 5, 29—32. (In Russian).

The structure of GDR patent information agencies is considered and their activities are described. After summary

68.7.283. *Further promotion of socialist voluntary work in the Chamber of Technology of GDR in the field of information.* – Fleischer, Heinz. Die weitere Entwicklung der sozialistischen Gemeinschaftsarbeit der KdT auf dem Gebiet der Information. «ZIID-Schriftenr.», 1967, No. 17, 31—45. (In German).

A Central working association in the field of information and documentation is operative under the GDR Chamber of Technology. In districts such unions were first started in 1966, and in 1962 the Central Commission on Scientific and Technico-Economic Information was set up. Similar voluntary bodies (commissions, working groups, etc.) are to be set up at enterprises, offices and whole branches. They work in close cooperation with the respective scientific and technical information agencies, such as the Central Institute for Information and Documentation, branch information institutes, information services at enterprises, etc. The major types of work are: recommendations for later enaction; preparation of thesauri; exchange of translations of technical literature; courses and lectures on methods of work; cooperation with other socialist countries, etc. E. Orlovsky

69.5.255. *Devising a uniform integral information system for heavy industries.*— Zimmermann, Gerhard. Probleme bei der Einbeziehung wissenschaftlich—technischer Informationen in das einheitliche Informationssystem des Schwermaschinen- und Anlagenbaus. «ZIID-Zeitschrift», 1968, *15*, No. 6, 238–242. (In German; English and Russian summaries).

In 1969 a uniform information system for heavy industries is to be introduced. The information collection and files for the system and its general organizational pattern are discussed. 2 ills. Summary.

68.9.293. *The information system in the field of standardization.*— Schmidt, Tilo. Das Informationssystem auf dem Gebiet der Standardisierung. «Standardisierung», 1968, *14*, No. 3, 106—110. (In German).

An Information and Documentation Centre of Standardization has been set up in GDR; a chart of information flows received at this Centre is given, and information sources processed herein are listed. The pattern of information processing and accumulation is described. The Centre employs an information retrieval system based on peek-a-boo cards; key words are used as index entries, but there is still no fully-developed thesaurus. Suggestions are given to improve the information system in the field of standards. 4 ills. A. B.

69.1.252. Система научно-технической информации. Итоги и перспективы. Heutehaus Kurt. Das Informationssystem Wissenschaft und Technik — Rückschau und Ausblick. «ZIID — Zeitschrift», 1968, 15, № 4, 142—145 (нем.)

Подводятся итоги работы центрального института информации и документации и других информационных служб ГДР по выполнению постановления Совета Министров ГДР от 6 августа 1963 г. о развитии системы научно-технической информации в стране. Приводятся некоторые сведения о состоянии и задачах этой системы в 1968 г. А. Б.

69.9.224. Организация патентной информации в ГДР. Кузнецова О. Е. «Вопр. изобретательства», 1969, № 5. 29—32

Рассматривается структура патентно-информационных органов ГДР. Описывается их работа по обеспечению специалистов народного хозяйства патентной информации. Резюме

68.7.283. **Дальнейшее развитие социалистической общественной работы Палаты техники ГДР в области информации.** Fleischer Heinz. Die weitere Entwicklung der sozialistischen Gemeinschaftsarbeit der KdT auf dem Gebiet der Information. «ZIID — Schriftenr.», 1967, № 17, 31—45 (нем.)

При Палате техники ГДР работает Центральное рабочее содружество в области информации и документации. В округах такие содружества начали создаваться в 1955 г., а в 1962 г. была создана Центральная комиссия по научной и технико-экономической информации. Аналогичные общественные органы (комиссии, рабочие группы и др.) существуют на предприятиях, учреждениях, а также в отраслях. Работа ведется в тесном сотрудничестве с соответствующими органами научно-технической информации (Центральным институтом информации и документации, отраслевыми институтами информации, информационными службами на предприятиях и др.). Основные виды работ: подготовка материалов к нормативным актам по вопросам информации; работа над составлением тезаурусов; обмен опытом в области технического перевода; проведение курсов и лекций по методике работы; обмен опытом с другими социалистическими странами и др. Э. Орловский

69.5.255. **Проблемы создания единой информационной системы в области тяжелого машиностроения.** Zimmermann Gerhard. Probleme bei der Einbeziehung wissenschaftlichtechnischer Informationen in das einheitliche Informationssystem des Schwermaschinen- und Anlagenbaus. «ZIID-Zeitschrift», 1968, 15, № 6, 238—242 (нем.; рез. русск., англ.)

В 1969 г. в ГДР вводится единая информационная система в области тяжелого машиностроения и оборудования. Рассматриваются вопросы создания информационного фонда и информационных каталогов этой системы, а также ее общей организации. Илл. 2. Резюме

68.9.293. **Информационная система в области стандартизации.** Schmidt Tilo. Das Informationssystem auf dem Gebiet der Standardisierung. «Standardisierung», 1968, 14, № 3, 106—110 (нем.)

Сообщается о создании в ГДР Центра информации и документации по вопросам стандартизации, приводится схема потоков информации, поступающей в этот центр и перечисляются обрабатываемые в нем источники информации. Описывается организация обработки и накопления информации. Сообщается, что в Центре используется ИПС на просветных ПК, в качестве индексов используются ключевые слова, но тезаурус еще не разработан. Вносятся предложения по улучшению информационной системы в области стандартов. Илл. 4.

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68.10.330. *Information at a scientific-industrial enterprise.*— Lehrack, Klaus-Dieter. Die Informationstätigkeit in einem wissenschaftlichen Industriebetrieb. «ZIID-Schriftenr.», 1967, No. 17, 95—101. (In German).

Experiences of a research centre having its own experimentation factory (GDR) in abstracting special literature are reported. The Centre's information service primarily aims at controlling the flow of information to achieve optimum results. In this connection, it was decided to make experts from the various departments responsible for abstracting certain journals. This organizational pattern has resulted in improved information services due to several causes: (1) experts received information while abstracting; (2) a better feedback between the information service and departments; (3) delays in information handling were eliminated. K. Weiss

68.10.330. Информационная деятельность на научно-промышленном предприятии. Lehrack Klaus-Dieter. Die Informationstätigkeit in einem wissenschaftlichen Industriebetrieb. «ZIID—Schriftenr.», 1967, № 17, 95—101 (нем.)

Сообщается об опыте работы научного центра с экспериментальным производством (ГДР) в области реферирования специальной литературы. Основная задача информационной службы центра — управление информационным потоком для достижения оптимальных результатов работы. В связи с этим было принято решение об организации реферирования специальных журналов, получаемых информационной службой, специалистами отделов, причем каждому отделу выделяется определенный круг журналов. Такая организация работы привела к улучшению информационной работы, которое объяснялось рядом причин: 1) в процессе реферирования специалисты быстро получали необходимую им информацию; 2) улучшалась обратная связь между информационной службой и отделами; 3) ускорился процесс обработки информации. К. Вайс

70.2.271. *Information service at an engineering enterprise.*— Preisler, Werner. Informationsstelle in einem technologischen Projektierungsbetrieb. «Informatik», 1969, *16*, No. 3, 42—47. (In German; Russian and English summaries).

The tasks of the information service at a machine-building factory in GDR are considered. Some proposals are made towards its better operation. 7 ills., 4 refs.

70.2.271 (P-1092). Информационная служба на машиностроительном предприятии. Prisler Werner. Informationsstelle in einem technologischen Projektierungsbetrieb. «Informatik», 1969, 16, № 3, 42—47 (нем.; рез. русск., англ.)

Рассматриваются задачи информационной службы машиностроительного предприятия ГДР. Вносятся предложения по улучшению ее деятельности. Илл. 7. Библ. 4. По резюме

68.9.294. *Information at an industrial enterprise.*— Gerold, S. Behandlung der Information in einem Produktionsbetrieb. «Fertigungstechn. und Betrieb», 1968 *18*, No. 3, 146—149. (In German).

The major tasks facing the scientific and technical information centre of a leading enterprise for some industrial branch in GDR are listed. The Centre has a Dokumator facility to read microfilm, a special case to store the file, and a Dokufo photo duplicator. For prompt control over answered and received inquiries magnetic tables are used. A chart of information flows at the enterprise is presented. All types of incoming information are indexed. 3 ills.

68.9.294. Информационная работа на промышленном предприятии. Gerold S. Behandlung der Information in einem Produktionsbetrieb. «Fertigungstechn. und Betrieb», 1968, 18, № 3, 146—149 (нем.)

Перечисляются основные задачи ОНТИ головного предприятия ГДР. Отдел располагает установкой для чтения микрофильмов Dokumator, специальным шкафом для хранения картотеки, фотокопировальным аппаратом Dokufo. Для оперативного контроля за выданными и за поступившими запросами применяются магнитные таблицы. Приводится схема прохождения потоков информации на предприятии; указывается, что все виды поступающей информации индексируются.

HUNGARY

70.2.257. *The technical and methodical complexity of the national information system and some of its international aspects.*— Dusz, J. In collected articles: «Междунар. форум по информатике. Vol. 1». Moscow, 1969, 255—272. (In English, Russian summary).

Consideration is given to the impact of information in HPR, its modern facilities, methods and conditions of their comprehensive utilization within the national information system, and the feasibility of improving international cooperation in the field of information. After summary

70.2.257 (P-2990). [Создание государственной информационной системы]. Duzs J. The technical and methodical complexity of the national information system and some of its international aspects. В сб. «Междунар. форум по информатике. Т. 1». М., 1969, 255—272 (англ., рез. русск.)

Рассматривается значение информационной деятельности в ВНР современные технические средства, методы и условия их комплексного использования в государственной информационной системе, а также возможность улучшения международного сотрудничества в информационной деятельности. По резюме

68.8.267. *On information activities in the Hungarian People's Republic under new economic management.*— Бела З. Некоторые вопросы информационной работы при новой системе руководства хозяйством в Венгерской Народной Республике. «Научно-техн. информ. Сб. Всес. ин-т научн. и техн. информ.», 1968, сер. I, № 3, 11—14. (In Russian; English summary).

Some features in the organization and implementation of information activities in the HPR are considered in connection with the changes in economic management (economic information system, information aids, information complexes, tasks of the state and enterprises, etc).

68.8.267. Некоторые вопросы информационной работы при новой системе руководства хозяйством в Венгерской Народной Республике. Бела З. «Научно-техн. информ. Сб. Всес. ин-т научн. и техн. информ.», 1968, сер. 1, № 3, 11—14 (рез. англ.)

Рассматриваются особенности организации и осуществления информационной деятельности в ВНР в связи с перестройкой системы управления хозяйством (экономическая информационная система, информационные средства, комплексность информации, задачи государства и предприятий и др.). Резюме

70.2.258. *The tasks of the Hungarian Central Technical Library and Documentation Centre (OMKDK) in the field of information and its development in the new system of economic management.*— Polzovics, Iván. Az OMKDK szakirodalmi információs feladatai és gejlesztésük a gazdaságirányitás uj rendeszerében. «Tud. és műsz. tájek.», 1969, *16*, No. 9, 621—651. (In Hungarian; English, Russian and German summaries).

Information and documentation in the field of scientific and economic information has been the responsibility of the Hungarian Technical Library and Documentation Centre during the last twenty years. Their major task consists in selecting and handling national and foreign materials. Annually, the abstract journal runs in its 14 sections some 120 thou. abstracts and bibliographies. The translation department handles up to 24 thou. items and produces to order up to 350 thou. standard typed pages of translations. Every month the Centre issues seven regular and periodical technical publications and 5 of technico-economic nature. 10 refs. After summary

68.10.321. *Some problems of improving the activities of the HPR Documentation Centre.*— Lévai, Zsussa. Einige Grundthesen der Vervollständigung des technisch-ökonomischen Informationszentrums in der Volksrepublik Ungarn. «ZIID-Schriftenr.», 1967, No. 17, 64—71. (In German).

Since 1956, the technical and economic information system in HPR has been developing on the basis of the National Scientific and Technical Library and Documentation Centre. At present this system is subordinated to two higher authorities: the Ministry of Culture and State Committee for Technological Progress. Branch information centres are available only under three industrial ministries. K. W.

68.1.207. *Organization of scientific, technical and economic information in metallurgy and machine building in HPR.*— Šulc, Miloslav; Borovanský, Vladimír. Organizace vědeckých, technických a ekonomických informaci v odvětví hutnictví a strojírenství v Maďarské lidové republice. «Techn. knihovna», 1967, *11*, No. 7, 213—219. (In Czech).

The Institute of Scientific and Technical Information of the Ministry of Metallurgy and Machine Building of HPR consists of 4 major divisions: organization and methods, division of information collections and their processing, documentation and translations divisions. Non-staff specialists are widely drawn to process the materials. The work of the divisions and other units is described with reference to the size of their staff and their responsibilities; consideration is given to the structural pattern of the information network under the Ministry, as well as to the system of training information officers and librarians. A thesaurus of 12 thou terms has been developed for information retrieval. E. Parshina

69.1.246. *Technical and economic information in the Heavy Industry.* Lőrinc, Imre. Müszaki-gazdasági tájékoztatás a Nehézipari minisztérium területen. «Tud. és müsz. tájékostatás», 1968, *15*, No. 6, 389—397. (In Hungarian; English, Russian and German summary).

This is the generalization of the results of the survey carried out in 1967 by the Institute of Industrial Economy and Production Organization attached to the Ministry of Heavy Industry to determine the state-of-the-art in information in heavy industries. Proposals are made towards further development of the information network.

68.10.323. *The pattern of an information service at an industrial enterprise.*— György, Károly. A vállalati műszaki információs szolgálat megszervezése. «Ruhaipar», 1968, *14*, No. 3, 30—32. (In Hungarian).

Some ideas are proposed on the organizational pattern of an information service at a sewing enterprise in HPR.

70.2.258 (P-1735). [Информационная деятельность Центральной технической библиотеки и Центра научно-технической информации ВНР]. Polzovics Iván. Az OMKDK szakirodalmi információs feladatai és fejlesztésük a gazdaságirányitás uj rendszerében. «Tud. és müsz. tájek.», 1969, 16, № 9, 621—651 (венг.; рез. англ., русск., нем.)

Информационная и документационная деятельность в области технической и экономической информации проводится ЦТБиЦНТИ в течение 20 лет. Основная задача в этой области — отбор и обработка отечественных и зарубежных материалов. Ежегодно в РЖ, издаваемом в 14 сериях, публикуется около 120 тыс. рефератов и библиографических описаний. Отдел переводов ежегодно обрабатывает до 24 тыс. названий документов и поставляет заказчику до 350 тыс. страниц переводов. Ежемесячно Центр выпускает 7 периодических и разовых изданий технической серии и 5 — технико-экономической. Библ. 10. По резюме

68.10.321. **Некоторые основные вопросы улучшения деятельности Центра документации ВНР.** Lévai Zsussa. Einige Grundthesen der vervollständigung des technisch—ökonomischen Informationszentrums in der Volksrepublik Ungarn. «ZIID-Schriftenr.», 1967, № 17, 64—71 (нем.)

Система технико-экономической информации в ВНР сложилась, начиная с 1956 г., на базе Национальной научно-технической библиотеки и Центра документации. В настоящее время система подчиняется двум ведомствам: Министерству культуры и Государственному комитету технического развития. Отраслевые информационные центры организованы только при трех промышленных министерствах. К. В.

68.1.207. **Организация научно-технической и экономической информации в металлургии и машиностроении ВНР.** Šulc Miloslav, Borovanský Vladimír. Organizace vědeckých, technických a ekonomických informaci v odvětví hutnictví a strojírenství v Maďarské Lidové republice. «Techn. knihovna», 1967, 11, № 7, 213—219 (чешск.)

Институт научно-технической информации Министерства металлургии и машиностроения ВНР состоит из 4 главных отделов: организационно-методического, отдела информационных фондов и их обработки, отдела документации и переводов. Для обработки материалов широко привлекаются внештатные специалисты. Описывается деятельность отделов и подразделений, указывается количество сотрудников и их обязанности, рассматривается структура сети информационных органов в учреждениях, подведомственных министерству, а также система подготовки кадров информаторов и библиотечных работников. Для информационного поиска разработан тезаурус на 12 тыс. терминов. Е. Паршина

69.1.246. **Техническая и экономическая информация в области тяжелой промышленности.** Lőrinc Imre. Müszaki-gazdasági tájékoztatás a Nehézipari minisztérium területén. «Tud. és müsz. tájékoztatás», 1968, 15, № 6, 389—397 (венг.; рез. англ., русск., нем.)

Обобщаются результаты исследования, проведенного Институтом экономики и организации производства Министерства тяжелой промышленности ВНР в 1967 г. с целью определения состояния информационной деятельности в области тяжелой промышленности. Вносятся предложения по дальнейшему развитию информационной системы. Резюме

68.10.323. **Организация информационной службы на предприятии.** György Károly. A vállalati müszaki információs szolgálat megszervezése. «Ruhaipar», 1968, 14, № 3, 30—32 (венг.)

Вносятся предложения по организации информационной службы на предприятии швейной промышленности ВНР.

70.1.260. *Activities of the Office for Technical Documentation and Translation of the Hungarian Ministry of Heavy Industry (NIMDOK) in 1968.*— Aranyossy, Árpád. A NIMDOK 1968. évi tevékenysége. «Tud. és műsz. tájék.», 1969, *16*, No. 7—8, 511—526. (In Hungarian; Russian, English and German summaries).

It is underlined that the main task of the Office for Technical Documentation and Translation of the Ministry of Heavy Industry of the Hungarian People's Republic is the provision of the enterprises and organizations under the authority of the Ministry with the information which they need in their technical and economic activities. It is noted that the Office exchanges information with the other member countries of the Council for Mutual Economic Assistance. In 1968, the Central Information Service of the Ministry of Heavy Industry was set up in order to coordinate the information flow among the Ministry departments and to establish regular relations between the Ministry and the appropriate enterprises, etc. Summary

70.1.260(P—1354). **Деятельность Бюро технической документации и переводов Министерства тяжелой промышленности.** Aranyossy Árpád. A NIMDOK 1968. évi tevékenysége. «Tud. és müsz. tájék.», 1969, 16 № 7—8, 511—526 (венг.; рез. англ., русск., нем.)

Подчеркивается, что основная задача Бюро технической документации и переводов Министерства тяжелой промышленности ВНР — обеспечение предприятий и организаций, находящихся в ведении Министерства, информацией, необходимой в их технико-экономической деятельности. Указывается, что Бюро осуществляет обмен информацией с другими странами — членами СЭВ. В 1968 г. была создана Центральная информационная служба Министерства, координирующая движение потока информации между его отделами и налаживающая информационные связи между Министерством и предприятиями и др. Резюме

POLAND

70.2.249. *Nation wide information system in Poland.*— Malkiewicz, E.; Leszczyk A. In collected articles «Междунар. форум по информатике. Vol. 1». Moscow, 1969, 350—365. (In English, Russian summary).

The main characteristic feature of the information system now being established in PPR is to cover all fields of science, technology and economy. The organizational pattern and methods of information will be adapted to the actual needs of the various groups of users. The fundamentals of the national information system introduced at present are expected to last till 1975. After summary

70.2.249 (P-2985). **Общенациональная информационная система в ПНР.** Malkiewicz E., Leszczyk A. Nation wide information system in Poland. В сб. «Междунар. форум по информатике. Т. 1». М., 1969, 350—365 (англ., рез. русск.)

Основная особенность создаваемой в ПНР информационной системы заключается в том, что она должна охватить все области науки, техники и экономики. Организация и методы информационной деятельности должны быть приспособлены к нуждам различных групп потребителей. Предполагается, что вводимые в действие основы деятельности общенациональной информационной системы просуществуют до 1975 г. По резюме

70.2.250. *The new tasks.*— Pirog, Wojciech. Nowe zadania. «Zesz. probl. przegl. techn.», 1969, No. 4, 28—31. (In Polish, Russian and English summaries).

In PPR, information centres, which are found in a majority of administrative and scientific instructions, collect various types of documents, such as patent literature, designs and scientific reports, etc. By now, many new forms and methods of information have been developed; international co-operation in this field is improving. A uniform national information system is planned to raise the volume of information collected, to co-ordinate research, etc.

70.2.250 (P-1395). **Новые задачи [информационной деятельности].** Piróg Wojciech. Nowe zadania. «Zesz. probl. przegl. techn.», 1969, № 4, 28—31 (польск.; рез. русск., англ.)

Информационные органы ПНР, существующие в большинстве научных и административных организаций, собирают разные виды документов (патентную литературу, проектные разработки, научные отчеты и др.). В настоящее время разработано много новых форм и методов информирования потребителей, налаживается международное сотрудничество в этой области. Предполагается создать единую информационную систему в стране, что позволит увеличить объем собираемой информации, скоординировать темы исследований и т. д. По резюме

69.4.214. *The role and tasks of the Central Institute of Scientific, Technical and Economic Information of PPR.*— Malkevici E. Rolul şi sarcinile ciinte (institutul central de informare ştiinţifică, tecnică şi economică) in reteaua de informare ştiinţifică, tehnică şi economica din Polonia. «Probl. docum. şi inform.», 1968, 2, No. 11, 673—678. (In Rumanian; Russian, English and French summaries).

The Central Institute of Scientific, Technical and Economic Information of PPR guides and co-ordinates national information activities. Its role in research and economic development plans is stressed. 2 ills. Summary

69.4.214. **Роль и задачи Центрального института научной, технической и экономической информации ПНР.** Malkevici E. Rolul şi sarcinile ciinte (institutul central de informare ştiinţifică, tehnică şi economică) in reteaua de informare ştiinţifică, tehnică şi economica din Polonia. «Probl. docum. şi inform.», 1968, 2, № 11, 673—678 (рум.; рез. русск., англ., франц.)

Описываются структура и задачи Центрального института научной, технической и экономической информации ПНР, являющегося руководящим и координирующим органом в области информационной деятельности в стране. Подчеркивается его роль в проведении научных исследований и осуществлении планов экономического развития. Илл. 2. Резюме

70.2.253. *Branch information services in PPR.*— Prezentujemy ośrodki informacyjne przemysłow: okrętowego energetycznego optycznego obrabiarkowego oraz not-u. «Zesz. prob. przegl. techn.», 1969, No. 4, 38—63. (In Polish; Russian and English summaries).

The activities of a number of branch information services are described, among them the information centres of the Central Technical Organization (in Bydgoszcz and Lodz) and information centres for shipbuilding industry (in Gdansk), power and optical industries (Warsaw). The significance of publications offered by the Central Technical Organization, CIINTE, branch services, etc., and the problem of educating translators are discussed.

70.2.253 (P-1399). **[Отраслевые информационные службы ПНР].**— Prezentujemy ośrodki informacyjne przemyslów: okretowego energetycznego optycznego obrabiarkowego oraz not—u. «Zesz. probl. przegl. techn.», 1969, № 4, 38—63 (польск.; рез. русск., англ.)

Описывается деятельность ряда отраслевых информационных центров Главной технической организации (в Быдгоще и Лодзи) и информационных центров судостроительной (в Гданьске), энергетической и оптической (в Варшаве) промышленности. Рассматривается значение изданий, выпускаемых Главной технической организацией, ЦИНТиЭИ, отраслевыми службами и др., а также вопрос о переводческих кадрах. По резюме

70.2.251. *Organization and activity of a branch centre for technical and economic information.*— Kwiatkowska, J. In collected articles: «Междунар. форум по информатике. Vol. 1». Moscow, 1969, 524—536. (In English, Russian summary).

Branch centres for technical and economic information are guided in methods by technical and economic information centres of the Ministries and CIINTE. They co-ordinate the activities of the information services of all enterprises within the branch. The tasks of the centres include information selection and handling and laying down the prerequisites for technological, economic and organizational progress within the branch. After summary

69.3.215. *The scientific and technical information system in coal mining in PPR.*— Szczepanek, Eugeniusz. Ośrodki informacji — bankiem pamięci. «Wiadom. górn.», 1968, *19*, No. 11, 324—330. (In Polish).

The significance of scientific information for coal-mining specialists is defined. The structure of reference collections, the types of materials released by the two technical and economic information centres under the Central Mining Institute and mechanical and design enterprises in Polish coal mining are described. Soon information centers will be set up, under coal mining projects to render services to both the administrative staff and personnel employed at the mines organic to the project. 1 ill.

69.3.214. *The Research and techno-economic information division of the Paper Industry Design Bureau.*— Podkowiński, Janusz. Dział Studiów i Informacji Techniczno—Ekonomicznej BPPP. «Przegl. papiern.», 1968, *24*, No. 7, 227—231. (In Polish).

The principal tasks of the Design Bureau for Paper Industry (PPR) are considered. The major lines along which the 1963-organized Research Division directs its activities, including information, are analysed in detail. A systematic list is given of the work done by the Bureau from 1964 to 1967 on the initiative of and in co-operation with the Research Division. Light is thrown on the co-operation between the Design Bureau and the Pulp and Paper Institute. The influence of the Research Division over the Bureau's activities is defined. The future tasks of the Division are described. A. Yurko

68.10.313. *Scientific, technical and economic information in electrical engineering.*— Harasimowicz, Edward. Informacja naukowo-techniczna i ekonomiczna w przemyśle elektrotechnicznym. «Aktual. probl. inform. i dokum.», 1968, *13*, No. 2, 14—15. (In Polish; Russian, English and French summary).

The organizational pattern of information in Polish electrical industry is analysed. Information publications in the field are briefly described. The author stresses the urgency of supplying information centres with reprographic equipment. H. Stępniewska (PPR)

70.2.251 (P-2973). **Организация и деятельность отраслевого центра технической и экономической информации в ПНР.** Kwiatkowska J. Organization and activity of a branch centre for technical and economic information. В сб. «Междунар. форум по информатике. Т. 1». М., 1969, 524—536 (англ., рез. русск.)

Отраслевые центры технической и экономической информации методологически подчинены центрам технической и экономической информации министерств и ЦИНТиЭИ. Они координируют деятельность информационных служб предприятий данной отрасли. Задачей центров является отбор и обработка материалов и создание условий для технического, экономического и организационного прогресса в данной отрасли. По резюме

69.3.215. **Система научно-технической информации в угольной промышленности ПНР.** Szczepanek Eugeniusz. Ośrodki informacjibankiem pamięci. «Wiadom. górn.», 1968, 19, № 11, 324—330 (польск.)

Определяется значение научно-информационной деятельности в информационном обслуживании специалистов. Рассматривается структура СИФ, типы выпускаемых изделий и материалов двух отраслевых центров технико-экономической информации, существующих при Центральном институте горного дела и при Объединении конструкторско-механических предприятий угольной промышленности ПНР. Сообщается о предстоящей организации в объединениях угольной промышленности и промышленности горного оборудования и строительства центров информации для обслуживания как работников управления, так и работников шахт, входящих в объединение. Илл. 1. А. Ю.

69.3.214. **Отдел исследований и технико-экономической информации Проектного бюро бумажной промышленности.** Podkowiński Janusz. Dział Studiów i Informacji Techniczno-Ekonomicznej BPPP. «Przegl. papiern.», 1968, 24, № 7, 227—231 (польск.)

Рассматриваются основные задачи Проектного бюро бумажной промышленности ПНР. Детально раскрывается содержание ведущих направлений деятельности организованного в 1953 г. отдела исследований, в частности информационная деятельность. Приводится систематизированный перечень работ, выполненных бюро в 1964—1967 гг. по инициативе и в сотрудничестве с отделом исследований. Освещаются вопросы сотрудничества Проектного бюро с Институтом целлюлозы и бумаги. Оценивается влияние деятельности отдела исследований на работу бюро. Формулируются задачи отдела на будущее.

68.10.313. **Научная, техническая и экономическая информация в электротехнической промышленности.** Harasimowicz Edward. Informacja naukowo-techniczna i ekonomiczna w przemyśle elektrotechnicznym. «Aktual. probl. inform. i dokum.», 1968, 13, № 2, 14—15 (польск.; рез. русск., англ., франц.)

Анализируется организация информационной деятельности в электротехнической промышленности ПНР. Дается краткая характеристика информационных изданий по этой отрасли. Подчеркивается необходимость оснащения информационных центров репродукционным оборудованием. H. Stępniewska (ПНР)

ROMANIA

70.1.262. *Organizational principles of national systems of documentary information.*— Tărăboi, Vasile. Principiile organizării sistemelor naționale de informare documentară. «Probl. inform. şi docum.», 1969, *3*, No. 8, 401—408. (In Rumanian; Russian, English and French summaries).

The problem of creating a single nation-wide information system in Rumania, incorporating all information bodies of the country, is considered. The need for coordination of their work methods is underscored. The basic objectives of the system are formulated to be rapid and accurate retrieval of information and meeting the users' requirements. 9 refs. Summary

70.1.262(P—1082). **Принципы организации информационной системы.** Tărăboi Vasile. Principile organizării sistemelor naționale de informare documentară. «Probl. inform. şi docum.», 1969. 3, № 8, 401—408 (рум.; рез. русск., англ., франц.)

Рассматривается вопрос о создании единой национальной информационной системы СРР, объединяющей информационные органы страны. Подчеркивается необходимость координации методов их работы. Основные задачи системы: обеспечение оперативного и точного поиска информации, удовлетворение запросов потребителей. Библ. 9. Резюме

69.7.159. *20 years of activity of the Central Institute for Technical Documentation of SRR.*— Tărăboi, Vasile. 20 ani de acitivitate de informare si documentare a institutului central de documentare tehnică. «Probl. inform. si docum.», 1969, *3*, No. 1, 3—7. (In Rumanian; Russian, English and French summaries).

The activities of the Central Institute for Technical Documentation of SRR, set up on the 1st January 1949, are discussed. Consideration is given to the tasks of the Institute in keeping its clients informed, in mechanizing storage and retrieval of information, theory research, etc.

70.2.264. *Organization of information activity at industrial enterprises as reflected in special literature.*— Aleman, Veronica. Organizarea activităţii de informare în întreprinderi industriale oglindită în literatura de specialitate. «Probl. inform. şi docum.», 1969, *3*, No. 9, 489—501. (In Rumanian; Russian, English and French summaries).

Problems related to the organization of information activity at industrial enterprises in SRR are described, including the provision of information staff, organization and utilization of the information collections, etc. The following forms of information are listed: current information, information analysis, publications. The need for co-operation with central information agencies is emphasized. 30 refs. After summary

69.1.248. *Technical information in mining-industries.* Bodiu, Anatolie; Beregic, Valentin. Organizarea informării tecnice în cercetarea aplicativă in industria minieră. «Probl. docum. şi inform.», 1968, *2*, No. 8, 479—486. (In Rumanian; Russian, English and French summary).

The activities of the Information Division of the Research Centre for Non-Ferrous Metal Ores, in Baia-Mare, SRR, are described. 2 ills. Summary

70.2.265. *The Information and Documentation Centre of the Ministry of Light Industries of SRR.*— Manolescu, Maria. Aspecte din activitatea productivă a centrului de informare şi documentare tehnico—ştiinţifică al ministerului industriei uşoare. «Probl. inform. şi docum.», 1969, *3*, No. 8, 415—434. (In Rumanian; Russian, English and French summaries).

The Information and Documentation Centre supplies its users with general, subject-oriented and retrospective information. With a view to organizing an information system for light industries, the Centre studies the volume of documents to be processed, coordinate indexing; it also engages in information storage, etc. 8 ills., 25 refs.

69.7.159. 20-летие Института технической документации СРР. Tărăboi Vasile. 20 ani de activitate de informare şi documentare a institutului central de documentare tehnică. «Probl. inform. si rocum.» 1969, 3, № 1, 3—7 (рум; рез. русск., англ., франц.)

Описывается деятельность Института технической документации СРР, созданного 1 января 1949 г. Рассматриваются задачи института по информированию потребителей, механизации хранения и поиска информации, исследованию теоретических проблем и др. Резюме

70.2.264 (Р-3032). [Организация информационной деятельности на промышленных предприятиях]. Aleman Veronica. Organizarea activităţii de informare în întreprinderi industriale oglindită în literatura de specialitate. «Probl. inform. şi docum.», 1969, 3, № 9, 489—501 (рум.; рез. русск., англ., франц.)

Описываются проблемы, связанные с организацией информационной деятельности на промышленных предприятиях СРР (обеспеченность информационными кадрами, организация и использование информационного фонда и др.). Указываются основные формы информационной деятельности: текущее информирование, информационный анализ, публикации. Подчеркивается необходимость сотрудничества с центральными информационными органами. Библ. 30. По резюме

69.1.248. [Организация технического информирования в горной промышленности]. Bodiu Anatolie, Beregic Valentin. Organizarea informării tehnice în cercetarea aplicativă in industria minieră. «Probl. docum. şi inform.», 1968, 2, № 8, 479—486 (рум.; рез. русск., англ., франц.)

Описывается деятельность отдела информации Исследовательского центра в области руд цветных металлов (г. Бая-Маре, СРР) по информированию научных сотрудников. Илл. 2. Резюме

70.2.265 (Р-1080). Деятельность Центра информации и документации Министерства легкой промышленности СРР. Manolescu Maria. Aspecte din activitatea productivă a centrului de informare şi documentare tehnico—ştiinţifică al ministerului industriei uşoare. «Probl. inform. şi docum.», 1969, 3, № 8, 415—434 (рум.; рез. русск., англ., франц.)

Центр информации и документации осуществляет обеспечение потребителей общей, тематической и ретроспективной информацией. Для создания информационной системы в области легкой промышленности

Центр исследует объем подлежащих разработке документов, метод координатного индексирования, занимается вопросами хранения информации и др. Илл. 8. Библ. 25. По резюме

YUGOSLAVIA

69.8.209. *Information in Yugoslavia.*— Vasović, Natalija. Naučna i tehnička informacija i njihov značaj. «Tehnika», 1969, *24*, No. 3, 401—403. (In Serbo—Croatian; French summary).

Modern facilities and techniques for processing information in Yugoslavia are discussed. The necessity of bringing the information system in line with the needs of various industries is emphasized. 1 ill., 12 refs. E. P.

69.5.254. *Documentation in SFRY and its efficiency.*— Teich, Gerhard. Angewandte Dokumentation und wirtschaftlicher Nutzeffekt in Jugoslawien. «Nachr. Dokum», 1968, *19*, No. 6. 247—250. (In German, English summary).

Adequate documentation is becoming a prerequisite of economic and political success in SFRY. The existing network of libraries and documentation centres cannot yet timely meet the information needs of industries. Documentalist training is also discussed. M. F.

69.8.209. [Информационная деятельность в СФРЮ]. Vasović Natalija. Naučna i tehnička informacija i njihov značaj. «Tehnika», 1969, 24, № 3, 401—403 (сербскохорв., рез. франц.)

Приводятся сведения о новейших средствах и методах обработки информационных документов в СФРЮ. Подчеркивается необходимость приведения информационной системы в соответствие с потребностями различных отраслей промышленности. Илл. 1. Библ. 12. Е. П.

69.5.254. [Документационная деятельность в СФРЮ] Teich Gerhard. Angewandte Dokumentation und wirtschaftlicher Nutzeffekt in Jugoslawien. «Nachr. Dokum.», 1968, 19, № 6, 247—250 (нем., рез. англ.)

Подчеркивается, что правильно налаженная документационная деятельность становится для СФРЮ необходимым условием достижения первоочередных экономических и политических целей. Указывается, что сеть отраслевых библиотек страны, а также документационные центры еще не удовлетворяют вовремя потребности предприятий в необходимой информации. Обсуждается также проблема подготовки информационных кадров. М. Ф.

69.6.208. *The SFRY centre for scientific information and documentation.*— Jugoslávské Ústředi pro vědecké informace a documentaci. Nv. «Metodika a techn. inform.», 1968, *10*, No. 9, 92—93. (In Czech).

The Centre for Scientific Information and Documentation of SFRY was set up in 1948 as a section of the Federal Ministry for Industrial Development. In 1950 it was merged with the Central Technical Library. Since 1952 the Centre is independent. It employs about 400 specialists. Its monthly newsletter covers 11 subject series. The Centre is equipped with modern duplication facilities. A journal to tackle problems of information and documentation theory is expected to arrive soon as a regular service. A. Yu

69.6.208. **Центр научной информации и документации СФРЮ.** Jugoslávské Ústředi pro vědecké informace a dokumentaci. Nv. «Metodika a techn. inform.», 1968, 10, № 9, 92—93 (чешск.)

Центр научной информации и документации СФРЮ организован в 1948 г. как отделение при федеральном министерстве по развитию промышленного производства. В 1950 г. к нему была присоединена Центральная техническая библиотека. С 1952 г. Центр существует самостоятельно. В Центре работает около 400 специалистов. Ежемесячно издается информационный бюллетень по 11 тематическим сериям. Центр оснащен современным множительным оборудованием. В ближайшее время предполагается начать издание журнала по теоретическим и практическим проблемам информации и документации. А. Ю.

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INFORMATION AND DOCUMENTATION SERVICES FOR INDUSTRY

PART II

INFORMATION AND DOCUMENTATION SERVICES FOR INDUSTRY IN OECD MEMBER COUNTRIES AND IN SOME LATIN AMERICAN COUNTRIES [1]

by

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Organized in co-operation with the Iranian Government

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[1] The views and opinions expressed in this paper are those of the author and do not necessarily reflect the views of the secretariat of UNIDO. This document has been reproduced without formal editing.

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OECD COUNTRIES

Decentralization is the basic principle underlying scientific and technicial information services in the capitalist countries, although the degree of decentralization may vary widely from country to country.

The scientific and technical information system in each country has evolved differently. Information bodies of different character and scope were set up at government departments, enterprises, academic institutions, etc. In spite of all their differences, these information bodies can be conveniently classed in the following categories; governmental information agencies; information bodies of professional societies; information centres of industrial and business groups; and information centres of academic institutions.

In recent years, government institutions appeared in OECD countries which should co-ordinate the activities not only of governmental but, if possible, non-governmental information bodies as well. Thus, in the United States, co-ordinating functions in the field of scientific information are the responsibility of the Committee on Scientific and Technical Information of the Federal Council on Science and Technology and the Scientific Information Office of the National Science Foundation. In Britain, the Office for Scientific and Technical Information was established under the Ministry of Education and Science in April 1965 and was charged with co-ordination of information work of government and non-government information centres in the country, training of information personnel, direction of research in the field of information, and upgrading of the STI system in Britain.

There is a trend towards closer co-operation in particular subject fields. Individual companies agree to co-operate in the publication of abstract journals and in establishment of information centres serving these companies. Thus, in the United States oil companies have built a special information institute with the purpose of centralized processing of information materials. A similar institute has been created in the pharmaceutical industry as well.

New forms of information service are gaining popularity. For example, a Scientific Information Exchange Service was created at the Smithsonian Institute in the United States, which provides data on who conducts research on particular subjects and where, and who sponsors it.

The National Referral Centre for Science and Technology operates at the Library of Congress (USA) since 1963, which supplies data on information sources (organizations, departments and individuals which can and will provide information on a specific topic. The Centre acts as an intermediary between the information user and the information centre.

All this is indicative of a tendency for a broader co-operation and co-ordination of information activities in OECD member countries.

UNITED STATES OF AMERICA

Being a highly developed capitalist country the United States have a very advanced system of scientific and technical information which differs from other capitalist countries both in scope and structure.

Information agencies have appeared gradually as the need arose for such services in industry. Federal agencies and departments, in universities and professional societies.

Federal information agencies play an important part in the national system of scientific and technical information.

Among the major federal information bodies are: Defense Documentation Centre, Scientific and Technical Information Department of the National Aeronautics and Space Administration, Technical Information on Services of the US Atomic Energy Commission, Clearinghouse for Federal Scientific and Technical Information, the Patent Office, the National Bureau of Standards, the Library of Congress, the National Library of Agriculture of the Department of Agriculture, the National Library of Medicine, the Scientific Information Exchange Service and specialized information centres.

The Defense Documentation Centre provides for the exchange of information on research projects among defense and other federal bodies. In order to carry out this task the Centre collects and stores practically all reports in which scientific and technical findings are recorded of the investigations and tests performed by the Department of Defense. At the present moment the Centre fulfills annually 1.25 million orders coming from the United States Army, Air Force, Navy and other services.

In conjunction with other federal institutions the Centre ensures the circulation of unclassified technical reports to organizations in the United States and abroad.

The Defense Documentation Centre collections contain more than 750,000 technical reports. The growth rate is about 50,000 reports per year.

The Centre issues a semi-monthly "Technical Abstract Bulletin" which gives information on new reports.

Increased demands placed on information services have brought about the introduction, in 1951, of automatic procedures for processing and dissemination of information.

The Centre has seven branches located in areas where the war industry is concentrated.

The Department of Scientific and Technical Information of the National Aeronautics and Space Administration was established in 1958. The main function of NASA is to co-ordinate research in the aeronautics and space field. The Administration has large laboratories for conducting research studies.

The principal task of the Department of Scientific and Technical Information is provision of the necessary information to the personnel of laboratories and other divisions of NASA, as well as those of other companies and organizations engaged in research under NASA contracts.

In order to improve information services to specialists, a Scientific and Technical Information Service was formed at the Department in 1962. The service has two main functions: acquisition, systematization and technical processing of research and development reports on aeronautics and space studies, and keeping the users aware of these materials, as well as searching and dissemination of information on request.

Approximately 20,000 scientific and technical reports are added to the information retrieved system of the Service every year. The information is recorded on magnetic tape, copies of which are distributed among NASA's nine principal centres. Each document is represented by author, subject, source, and ID number. Abstract journals are issued semi-monthly as a by-product of the system.

The main publication of the Administration is the semi-monthly abstract journal "Scientific and Technical Aerospace Reports", which covers reports of research projects completed in NASA laboratories and subdivisions, as well as those performed under NASA contracts by external organizations, and other reports from different sources.

The Technical Information Service of the US Atomic Energy Commission Technical Information Service is the largest information centre in the field of atomic energy.

The tasks of the Service include provision of information to the laboratories and divisions, AEC, Defense Department, NASA and its contractors, other federal agencies, research institutions, universities and industrial enterprises and international organizations, as well as government bodies of countries collaborating with the United States.

The Technical Information Service is a complex but organized system for collecting and processing information on a wide range of subjects relevant to atomic energy: biomedicine, chemistry, physics, materials properties, meteorology, apparatus and equipment, computer technology etc.

Preparation and printing of different kinds of publications are among the main functions of the Technical Information Service. The findings of current and completed research studies are reported by the Service in technical reports, papers in journals and proceedings, abstract journals, bibliographic indexes, reference books, monographs, surveys, etc.

The technical report is the basic document for presenting information on the results of scientific research.

The US Atomic Energy Commisssion issues about 60,000 unclassified technical reports every year.

The Service issues five abstract journals, the main one of which is "Nuclear Science Abstracts".

The Federal Clearinghouse for Scientific and Technical Information was instituted in January 1965 to take the place of the Department of Commerce Technical Service. The task of the Clearinghouse is to provide the specialist with scientific and technical information generated by the federal government sponsored research. The Clearinghouse collects, systematically arranges and disseminates unclassified technical reports of all federal departments as well as information material which cannot be obtained from other sources.

The Clearinghouse provides two kinds of bibliographic services. Selected bibliographies on subjects of general interest to science and industry are compiled regularly and distributed free of charge. A company may request a retrospective bibliography on a specific subject covering any period of time, or a current bibliography.

The Clearinghouse gathers and systematizes translations of technical and scientific literature made within the United States. Annually some 25,000 translations are received.

The Clearinghouse publishes jointly with the Translations Centre of the Special Libraries Association, the bulletin "Technical Translations" which reports on translations accessioned by the Clearinghouse and the European Centre of Translations in Delft (the Netherlands). The bulletin is issued bi-weekly.

The Clearinghouse publishes, since 1965, a summary index of unclassified government sponsored research reports, "Government-Wide Index to Federal Research and Development Reports". Reports are indexed by author, subject heading, source and its accession number.

The Clearinghouse uses currently received reports to prepare and publish critical reviews complete with bibliographies. It also issues a current awareness bulletin on reports in certain subject fields which is circulated free of charge to companies and individuals.

The Clearinghouse maintains a catalogue of all information sources in physical sciences and mechanical engineering. This is a joint effort with the Library of Congress National Referral Centre for Science and Technology.

The US Patent Office is an information centre for patent materials. It issues approximately 50,000 patents per annum. The Patent Office uses mechanized search devices.

The United States National Bureau of Standards (NBS) was established in 1961. It is composed of three bodies: Institute of Basic Standards, Institute of Applied Technology, and Institute for Materials Research.

The National Bureau of Standards has created the National Centre of Standard Reference Data. Similar centres have also been formed in other federal bodies, research institutes, universities, etc. Standard reference data are data on materials properties which are selected from reliable sources and are critically reviewed. The data are classified and recorded on punched cards and magnetic cards, and tabulated in reference books. All these centres constitute the National System of Standard Reference Data whose activities are co-ordinated by the National Bureau of Standards.

The Library of Congress instituted in 1800 is a national library of the United States and plays an important part in the scientific and technical information system of the country. The Library of Congress is not only one of the largest book collections in the world but is also a research institution where complex theoretical problems are studied. Its holdings exceed 44 million units.

The Library maintains the National Union Catalogue of Books which represents the collections of 700 libraries in the United States.

The National Library of Agriculture of the Department of Agriculture was founded in 1862 with the purpose of collecting and storing agricultural literature.

The National Medical Library of the Department of Public Health, Education and Welfare was founded in 1836. Its holdings exceed 1.2 million volumes of literature in medicine and related sciences. The Library serves specialists with medical literature. It issues Index Medicus, a monthly bibliography of articles in medical journals, which is prepared by means of modern machine techniques. The Library has developed and is currently operating an automated information retrieval system called MEDLARS (Medical Literature Analysis and Retrieval System). New medical information (including pharmaceutical information) from current literature is recorded on magnetic tape which is used for computer searches and for computer controlled generation of the index.

The annual growth rate of the information retrieval system is up to 250,000 information documents.

The Science Information Exchange Service of the Smithsonian Institution was established in 1950. The Exchange provides information on organizations conducting or sponsoring research on specific topics. Prior to 1953 the coverage was confined to medical sciences, then it extended to include biology and psychology, and since 1960 also physics, chemistry, electronics, and some other sciences. Data on from 1,000 to 2,000 research projects are added to the store every week.

The information service of industrial and business organizations, learning establishments and professional societies may be broadly defined as non-governmental information bodies. They vary greatly in their scope of activities, tasks and financial backing. Information bodies of professional societies receive from the federal government direct financial support towards the printing of publications, research work in the field of information and the accomplishment of certain programmes which are of great importance for the national system of scientific information.

Non-governmental information bodies can be conveniently divided into several groups, although information bodies within a group may vary widely. Depending on the sphere of operation, the following groups can be identified: industrial and business information bodies; information bodies of professional societies; information bodies of academic institutions; commercial and independent organization for scientific and technical information.

Industrial and business information bodies constitute the largest group of information bodies which vary widely in structure and scope. They include technical information departments and technical libraries at companies and enterprises. Some large firms have libraries and technical information centres or departments, with the technical library sometimes embedded in the information division structure or, vice versa, serving as a parental body for the technical information division.

The main function of the information bodies in this group is to collect and process scientific and technical information in a certain subject field to meet the requirements of the organizations served. Libraries and information departments select and systematize proprietary technical documentation and build necessary collections of books, periodicals and patents to a size determined by the financial resources of the firm. Most of the literature comes by library loan or as photocopies and microfilms from government and university libraries. Large companies publish their own technical journals. Thus, the International Business Machines Corporation issues "IBM Journal of Research and Development".

The majority of journals published by industrial firms and business groups are sponsored by commercial publishing houses.

Scientific and technical information bodies, as a rule, are directly responsible before the firm's vice-president in charge of research.

During the recent decades there has been a marked trend in the United States towards a closer co-operation of companies within a branch of industry. Companies agree to collaborate and set up information centres which collect and process published materials in their subject area. Companies make abstracts of materials in their profile and send them down to the centre. In some centres information is fed into mechanized information retrieval systems. Information is provided to the personnel of the participating companies. Such co-operation of companies within one branch of industry is in evidence in the oil, pharmaceutical and aircraft industries in the United States, to name but a few. Sometimes co-operation in collecting and processing of information assumes international character, as in the aluminium, cast iron and steel industries, etc.

Information centres of learned and technical societies play an exceptionally important role in the United States system of scientific and technical information. According to the National Academy of Sciences data there are 1,600 such societies in the United States. Learned and technical societies traditionally serve as clearinghouses for scientific and technical information. Information is communicated by means of primary and secondary publications, conferences, seminars and symposia, information retrieval on demand, etc.

A major aspect of professional societies work is publication of one or more primary and abstract publications in science and technology. There are more than 6,200 journal titles published in the United States, of which 45 per cent are organs of learned and technical societies.

Most of the abstract journals in the United States are published by professional societies; the total number of abstract journals is 300. Whereas government and commercial groups issue abstract journals on specific problems, most abstract journals of professional societies are branch oriented. Because abstract journals set forth to achieve exhaustive coverage of scientific and technical literature of interest to their readers, the same publications may appear in several abstract journals, i.e. they may be duplicated.

Nowadays many abstracting services of professional societies employ machine methods for production of bibliographic indexes to journals, offer new kinds of current awareness services, develop computer-based information retrieval systems and introduce novel types of information services (selective dissemination of information). A case in point is the American Chemical Society.

To co-ordinate their efforts professional societies in the United States join in various federations and associations. Such "societies of societies" as the National Federation of Science Abstracting and Indexing Services and Bibliographic Services and Engineers' Joint Council promote unification of primary and secondary publications and development of more efficient information services.

Information centres of academic institutions do not confine their tasks of information services to the faculty and the student body but also conduct research work in the field of scientific and technical information. They sign contracts with the federal government and private organizations for research programmes in the field of applied linguistics, mechanisation of information processes, etc.

University libraries have large collections of scientific and technical literature. They are an important source of information for those scientists and engineers who have no access to government information agencies. In recent years the university libraries are increasingly becoming regional centres of information, serving scientists and engineers within their region.

Some companies provide grants to universities and subsequently receive wanted literature free of charge.

Universities in the United States play an important part in the professional training of information workers.

Recently, many organizations outside any of the above-mentioned groups have moved into the information scene. They are private companies specializing in any one area of information service, or research institutions like the Battelle Memorial Institute, or again non-profit organizations independent of any professional society.

To illustrate, the "Biological Abstracts" service was founded in 1926 by the American Association for the Advancement of Science, National Academy of Sciences of the United States, and the Union of American Biological Societies. BAS is a non-profit organization which has the aim of abstracting the world biological literature.

Due to considerable expansion of information services the Biological Abstracts Service as renamed, in 1964, to become Bio Sciences Information Service of Biological Abstracts. The abstract journal prints approximately 120,000 abstracts and 60,000 bibliographic references.

The information service indexes and abstracts 6,700 periodical titles from 91 countries. Each abstract journal issue is supplied with an author and subject indexes.

GREAT BRITAIN

The Ministry of Education and Science and Ministry of Technology which were established in 1964 play a special role in co-ordinating research activities and organization of information work.

To improve co-ordination of information work the Office for Scientific and Technical Information (OSTI) was formed under the Ministry of Education and Science in 1965. It has the following tasks:

- To advise the minister of education and science on questions of information work for the natural and social sciences and technology;
- To promote the development and improvement of information activities in the country;
- To co-ordinate and expand scientific research in scientific and technical information;
- To foster the development of a flexible and efficient system of scientific and technical libraries;
- To encourage the creation of new government and non-government information bodies and the improvement of the existing services;
- To provide consultative services to those organizations which plan improvement of their information divisions;
- To promote better professional training facilities for information workers;

- To popularize scientific information services with a view to their wide utilizations;
- To ensure effective participation of the country in international information organizations;
- To co-ordinate the work of other government and non-government information bodies;
- To give financial support to the National Lending Library for Science and Technology and to finance the Association of Special Libraries and Information Bureaux (Aslib).

The Ministry of Technology promotes the development of information services for the country's industry in a variety of ways. It directs and controls and activities of different government and government sponsored groups which are engaged in scientific research for the industry and provide consultative services and information to industrial enterprises.

The Ministry of Technology guides the activities of ten government research institutes and laboratories which have come under its authority from the former Department of Scientific and Industrial Research; it provides financial backing to 48 co-operative scientific research associations.

The Ministry of Technology has special responsibility for keeping the industry abreast of the current research and development carried out by the Ministry and other organizations.

The Ministry's publications department brings out a series of paid and free publications which highlight aspects of mechanization and automation of production, communicate the findings of research studies aimed at modernization of production techniques. The Ministry issues a monthly bulletin, New Technology, for the managerial and administrative staff in industry. The bulletin has a circulation of 60,000 copies and makes for the introduction of inventions and innovations in production.

A centre for Research and Development Reports was established at the Ministry, charged with collecting and abstracting of research reports within the country and abroad. It issues "Research and Development Abstracts", a bi-monthly journal.

A selective dissemination of information service, called "Techlink", has been developed with the aim of speeding up introduction into the industry of new ideas and innovative technologies, as well as disseminating important data contained in research reports.

The Ministry of Technology jointly with the Ministry of Education and Science has built some 70 industrial communication centres at technical colleges and institutes. Their main task is to enhance the ties between science and industry and to promote more efficient utilization of scientific advances by industrial companies.

Specialists of these centres pay visits primarily to small enterprises in their region and explain how to use information sources and reference collections of local and national information centres and libraries. They establish personal contacts with manufacturers and examine the companies' needs on the spot.

The activities of industrial communication centres are co-ordinated by the regional branches of the Ministry of Technology. Such regional branches are set up in order to maintain closer contacts between the Ministry and industrial enterprises and to strengthen technical assistance provided to them.

In 1967, the Ministry instituted the Engineering Technical Consultative Service for Productivity planned for a four-year operation, for which one million pounds were allotted. This service provides technical consultations to industrial enterprises. It gives assistance in the training of staff and in mastering new work methods. Particular attention is paid to small-sized and medium enterprises.

Mobile groups pay visits to enterprises and teach new work methods to designers, foremen and workmen. An initial visit is free. The group arranges a short talk illustrated by a film or filmstrip showing, or, where necessary, by operating a machine tool. The visit programme is arranged in advance with the company's management and is intended for an audience with a certain background. The visit is normally one or two days long. Supplementary visits are made by special groups which give advice and provide assistance in the mastering of innovative technologies and work methods in the manufacture of specific products. These visits are made on the request of enterprises, which meet part of the expenses.

Scientific research and information work are pursued not only by ministries but also by numerous associations of different kinds, research and technical societies, large industrial firms, etc.

It was on the initiative of the Consultative Board for Research and Industrial Studies that co-operative research associations began to appear. These autonomous associations conduct research in the interest of their members, with one-third of the costs being met by the State and the rest being covered by membership dues.

Co-operative research associations have proved their worth, and now their membership has grown to 40. They work in close collaboration with government research laboratories and institutes.

Apart from these two kinds of research organizations development associations for industry in Britain have been formed.

These associations are composed of groups of firms in one branch, e.g. British Electrical Association, Aluminium Development Association, etc.

Association information services and libraries serve the member companies, issue reports on completed studies, bulletins, primary and secondary journals, bibliographic indexes, translate foreign technical literature, and arrange consultations, exhibitions, film showings, and visits to laboratories, etc.

The British Shipbuilding Research Association, formed in 1945, has a library which receives 300 periodical titles, which form the base for the monthly abstract publication "Journal of the British Shipbuilding Research Association". The information service makes translations, supplies photocopies of articles and answer requests.

The British Iron and Steel Association, formed in 1944, has no library or information service of its own and uses the library shared by the Iron and Steel Institute and the Institute of Metals. The library collections include more than 30,000 books and 800 periodical titles. The information department of the Iron and Steel Institute answers numerous requests, compiles bibliographies and edits abstracts prepared by supernumerary abstractors. Abstracts are printed in the "Journal of the Iron and Steel Institute". Since 1960, the department issues abstracts on cards.

The British Non-Ferrous Metals Research Association unites 630 British and Commonwealth companies. The library receives in excess of 300 journal titles. The information department issues a monthly abstract journal, Bulletin of the British Non-Ferrous Metals Research Association, in which about 3,500 abstracts are published every year, as well as the monthly BNFMRA Review, where technical reports of the Central Board scientific and technical department are reviewed.

National industries in Britain have their own research and information agencies. Thus, the National Coal Board which was formed in 1946 has under its authority the mining research institute, the coal research institute and some others. A Central Library was established in London in 1947 to provide information services to the specialists in the branch. In 1954, the Atomic Energy Administration was instituted which consists of five independent laboratory groups conducting nuclear studies. Each group has its own library and information services.

In the Central Electrical Board, information work is carried out by the Central Library and the Technical Information Service. The latter issues a bi-weekly Digest which prints abstracts of journal articles as well as lists of translations made by the Service.

Research and technical libraries play an important role in the scientific and technical information system of Great Britain. The National Lending Library for Science and Technology occupies a position of prominence among them.

The National Lending Library was established in 1961 in Boston Spa. The Library is financed by the government through the Office for Scientific and Technical Information. Its function is to acquire as fully as possible scientific and technical literature and to provide information to specialists in industry, agriculture, and science. The library stock was enriched by 200,000 volumes transferred from London, and by 100,000 volumes provided by the Science Museum Library. The Library purchases and receives from other libraries and information centres old sets of periodicals.

At present it acquires almost all the world periodicals in science and technology, excluding medicine. The National Lending Library has the largest Russian literature collection in Europe. It also collects unpublished material, such as research reports and translations of scientific and technical literature from Russian into English, etc. The Library in a way complements the internal information collections of industrial firms and research organizations to which it lends its literature. An order is normally fulfilled within 24 hours. When a particular item is absent in the library stock the order is forwarded to the Science Museum Library. The Library provides, jointly with the US National Science Foundation, for translation of Russian-language scientific and technical periodicals.

The Science Museum Library, founded in 1883, is Britain's national library. It has large collections of books and periodicals - more than 5 million items. Its holdings furnish the basis for the weekly British National Bibliography.

The Patent Office Library was established in 1952. It stores rich collections of patents and other literature in science and technology, including agriculture. The Patent Office Library receives annually some 8,000 titles of current periodicals, more than 20,000 British and 300,000 foreign patents. The Patent Office issues, since 1854, the weekly Official Journal (Patents) with specifications of selected patents.

Large libraries are found in ministries and departments. They service the ministry personnel and subordinate organizations and loan proprietary and other materials to them. The main library of the Department of Agriculture was established in 1889. Its collections comprise more than 120,000 books and 2,000 periodical titles. The library has 12 regional branches; it collects all the internal publications and documents of the Department, research organizations, experimental stations and universities. The main library of the Admiralty, founded as far back as 1809, has 140,000 books, 75,000 booklets and numerous maps and charts in its stock. The collections of the central library of the Department of Commerce consist of 300,000 books, and a large number of journals. Along with the library the Department has a special information service which provides consultations and references to specialists through its branches.

The library network of Britain is characterized by regional co-ordination. For instance, the North-Western regional system has joined together 30 university and 100 public libraries. Such a system facilitates inter-library loan services, and provides for more rational acquisition of library collections. The Central Library in Manchester is the centre of the system, in which each participating library has a copy of the union catalogue. The libraries and information centres are connected by teletype links.

Another important group, besides the Office for Scientific and Technical Information, in co-ordinating information work in Great Britain is the Association of Special Libraries and Information Bureaux. It was formed in 1924 for the purpose of co-ordinating the activities of special libraries and information centres. Aslib represents Great Britain in the International Federation for Documentation. Members of Aslib are libraries and information agencies of government offices, universities, learned societies, firms and research institutions and public libraries and individuals.

An important role in the dissemination of information is played by learned societies of which there are more than 200 according to official statistics. Learned societies publish many quality primary journals and transactions. They issue Science Abstracts, Physical Abstracts and many other abstract journals. The information bodies of professional societies provide information services not only to society members but to the general public as well.

FRANCE

The scientific and technical information system in France is basically branch-oriented, although there are large multi-disciplinary information centres as well.

Among the major information agencies in France the following should be mentioned in the first place: the Documentation Centre of the National Centre Scientific Research, the Central Documentation Service at the Commissariat for for Atomic Energy, the documentation department of the National Institute of Industrial Property, the documentation services at the Pateur Institute, the Péchiney information service and the documentation department of the Renault works, etc. The National Library as well as special libraries plays an important role in the dissemination of scientific and technical knowledge in France. The main functions of the Documentation Centre, National Centre for Research Studies, (Centre de documentation du Centre National de la Recherche Scientifique) are as follows:

- Review and processing of all periodical publications in science and technology and publication of a regular issue of corresponding abstract journals;

- Organization and co-ordination of translation work in France; collection, processing and dissemination of information on translations into French made within the country;
- Provision of photocopies to all institutes and laboratories of the National Centre for Research Studies of France;
- Maintaining of collections of periodicals and building a collection of non-periodical publications (research reports, conference and symposia proceedings, etc.);
- Research and experimentation towards the development and refinement of mechanized information retrieval systems, experimental work on the development of a system and means for automatic indexing of abstracts; research and methodological studies in the field of automatic translation.

The Centre has the following structural subdivisions: the editorial board of the abstract journal Bulletin Signaletique; the translations department; the department of bibliographic research; the photocopying department; the library; the secretariat.

The main publication of the Documentation Centre is the "Bulletin Signaletique" which was initiated in 1940 in order to provide a vehicle for speedy communication of pure and applied research results to scientists and engineers in France. In 1969, all the series of the Bulletin covered about half a million publications from 13,000 titles of periodical and serial titles.

The National Institute of Industrial Property (Institute national de la proprieté industrielle) is France's central patent office. The documentation department at the Institute performs all reference and information services on patents and inventions. The reference collection contains in excess of 9 million patent specifications arranged by country (the Institute receives patents from 25 countries by exchange). In addition, in more than 20 French towns there are reference information collections which are branches of the Central Reference Information Collection. These collections include specifications of all French patents and inventions.

The main publication of the Documentation Department is the "Bulletin officiele de la proprieté industrielle".

Along with the cumulative volume of the Bulletin eight separate fascicles are published on main divisions: chemistry, physics, metallurgy, electrical engineering, etc. The material is arranged according to a subject authority list built on the basis of the International European Classification of Patents for Invention. The Bulletin and its separate fascicles are distributed on a subscription basis.

In addition to publication of the Bulletin, the Department is engaged in operative reference information services to organizations and individuals. For this it issues a weekly information catalogue of current patents.

The Central Documentation Service of the Commissariat for Atomic Energy in Saclé collects, processes and disseminates scientific and technical information among the Commissariat staff members.

The Service has the following divisions: the director and technical secretary's office; the library; the scientific documentation group; the group for automation of information work; the publications group; the translations group.

The Documentation Service conducts work in keeping with the topical plans of nuclear research centres and providing them with the necessary materials. In addition, the Service publishes and distributes scientific and technical documentation of the Commissariat and its research centres, builds the reference information collections of the Centre, bureaux and documentation groups and their libraries and places subscriptions for necessary publications. The Service also conducts experimental and research studies in the field of automation of information operations.

The organization of a branch oriented information service is exemplified by the information activities in the ceramics industry.

This branch of industry has two information bodies: the Documentation Service of the French Ceramic Society and the Documentation Service of the French Institute of Ceramics. Together they provide a comprehensive service on information materials in this industry.

Both these services are engaged in the gathering and processing of all current literature and dissemination of information among the users.

The Institute of Ceramics and the French Ceramic Society receive by subscription and exchange 150 titles of French and foreign journals. They prepare abstract cards for articles appearing in them which contain a complete bibliographic description or a short abstract.

In addition, the French Ceramic Society collects advertising booklets and prepares catalogues of various domestic and foreign equipment for the ceramics industry. The card files specify the names of items and of foreign suppliers.

The Society's documentation service collects, indexes and stores also French patents (from 300 to 400 patents are received by the service every year).

In addition the service keeps a file of fulfilled requests, a card file of visitors, and a list of consultations provided by the Society on different aspects.

The French Ceramic Society translations department makes translations of articles. Lists of translations are sent to the translations department of the Documentation Centre and the National Centre for Research Studies (which co-ordinates all translation work in the country), as well as to other organizations making translations in related subjects, e.g. the Documentation Centre for the Ferrous Metal Industry, the Mining Research Bureau and the Glass Institute. These organizations in turn supply data on translations made by them to the translations department.

The Péchiney information service (the company includes electrical metallurgical works as well as aluminium and other non-ferrous metal working plants) is engaged in the collection, processing and dissemination of information to 15 research centres and laboratories and 30 factories.

The Information Service has the following functions: to publish an abstract bulletin ("Bulletin de resumes"), to conduct bibliographic research, to collect and produce documents on demand.

The main sources of scientific and technical information are official French and foreign publications (the Service receives 700 periodical titles). An important source of information is patents and books (more than 200 books are purchased every year). Use is made in collecting information of catalogues, brochures, and other documentation brought out by industrial groups and private and public research institutions.

NETHERLANDS

In the Netherlands the gathering and processing of information and information services are carried out by various kinds of organizations: information agencies of State bodies, learned societies, universities, private companies, and all sorts of commercial organizations. This hampers the development of a centralized information system. A form of co-ordinated decentralization has been worked out recently in the Netherlands which is expected to be most rational and suitable to the local conditions. The essence of the system lies in the shared acquisition, processing of information materials, and production of secondary information in any one area of knowledge.

Practical experience indicates that this approach has certain limitations. When the economic information bodies which joined together to form an Economic Information Centre attempted to expand their ranks, it turned out that this measure had adversely affected the speed and quality of document processing, and therefore the idea of expansion was abandoned.

The co-ordinating and methodological guidance functions in the field of information work are the duty of the Netherlands Institute of Documentation and Archives (NIDER). It was founded in 1921 as a non-profit organization, and on its board information services of the government and the largest companies are represented.

The tasks and activities of the Institute grow as the Netherlands industry expands and new information centres are set up. At first NIDER limited its services to domestic industrial information. With the growing demand for information on new developments in foreign science and technology the Institute had to realign its operations in order to better meet the requests of its users. NIDER gives assistance in the establishment of information services at industrial enterprises, in the elaboration of classification schemes for organization of achives and catalogues. With the emergence of the trend towards co-operation of information centres in the processing of information materials on particular problems of science and engineering, NIDER began to act as a co-ordinating centre. Now, when scientific and technical information has evolved as a fully-fledged scientific discipline, an information research centre was established at the Institute with the objective of doing research in different aspects of the theory and practice of information.

NIDER comprises five basic departments: the information department, acquisition department and library, technical reports department, consultative bureau on arrangement of collections, reproduction department, Centre for Scientific and Technical Information Research, and committees.

The information department compiles bibliographies and surveys on different topics and conducts novelty and validity searches of patent specifications and literature on request of enterprises and individual users.

The technical reports department has a large collection of reports which provide data on research projects. NIDER receives reports from the United States, FRG, England, Japan and other countries, and also from the Organization for Economic Co-operation and Development on topics of interest to the Netherlands industry. The technical reports department produces microfilms and photocopies of reports, maintains a card file and issues monthly lists of accessions. Great importance is attached to the department as it holds materials which are not on sale.

The consultative bureau on the arrangement of collections helps enterprises in setting up information units and libraries, develops specialized classification schemes, and registration plans for the arrangement of materials in archives with due regard for the peculiarities of the enterprise. These classifications and plans are generally based on the UDC. The Bureau assists in the classification of complex and difficult concepts.

State information bodies pay main attention to information services for small and medium-size industrial enterprises of which there are about 11,000 in the Netherlands. In the majority of cases these enterprises have no information units of their own and address their requests to the NIDER or the National Applied Research Organization.

In 1930, a decree was signed by which the Netherlands Organization for Applied Research (Toegepast Natuurwetenschappelijk Onderzoek - TNO) was established in order to improve the efficiency of organization of research activities. TNO conducts research on subjects of its own choice and on orders from companies.

It is worthy of note that 60 per cent of research is by six large centres: TNO and five firms. The rest of the industrial enterprises in the Netherlands conduct a relatively small proportion of research studies.

The main task of TNO is carrying out research projects in the interest of industry, agriculture and commerce. Besides, TNO provides consultative and information services to its customers and does some research and testing on orders. It collaborates with industrial associations and separate firms.

At present TNO consists of more than 50 research institutes, laboratories and experimental stations which work according to a specially prepared programme.

All institutes and laboratories which are part of the Netherlands Organization for Applied Research are active in the information field: they publish journals, indexes, abstract bulletins, bibliographies and reviews in their subject fields and report research results in Netherlands and international journals and separate publications.

Institutes answer requests received directly by TNO or through the Netherlands Institute for Documentation and Archives. Many institutes have their own departments and offices of information and libraries.

In recent years, commercial information organizations made their appearance in the Netherlands which provide all sorts of information services: compiling of bibliographies, renting of microfilm readers, manufacture of various equipment, etc. Some of these commercial societies have gained popularity in many European countries. For instance, the Internation Patent Service (Interpas) issues monthly patent bulletins containing all data on patents issued during the proceding month in 20 countries of the world, issues every week "Abstracts of Japanese Patents" and translates patent titles or whole specificiations, etc.

Many large information agencies in the Netherlands offer products intended for international use. For example, the Excerpta Medica service publishes its abstract journal of world reknown in 29 series. The same applies to building, agricultural, cartographic and some other abstracting services.

A Collection of Inaccessible Access Literature was founded in the town of Delft in 1957 with the aim of co-ordinating translations from foreign languages. The Collection accumulates bibliographies and copies of translations of scientific and technical literature from Russian and East European languages. It also stores original papers in these languages. Now the European Translations Centre has been established on the basis of this national organization. Its members include national organizations in 14 countries.

Besides information centres, information work is carried out in the Netherlands by libraries which have long ceased to be more depositories of scientific literature. It is not always possible to draw a demarcation line between the functions of libraries and those of information centres in the Netherlands.

Some libraries, in co-operation with other organizations, act as large information centres, e.g. the Senior Agricultural College Library in Wageningen, the Economic Information Service Library, etc.

Central (union) catalogues of books and periodicals have become widespread. The Royal Library in the Hague maintains the Central Book Catalogue since 1922. This library also maintains (since 1942) the Central Periodical Catalogue which represents the collections of 210 libraries. The Senior Technical School Library in Delft runs the Central Technical Catalogue. This library has gradually grown to become the Technology Information Centre.

All large information centres and libraries are connected with each other and with other centres in Europe by telex lines. Combination of telex with modern reproduction techniques permits orders for literature to be fulfilled very quickly.

FEDERAL REPUBLIC OF GERMANY

Prior to the 1960s, a number of contrasting trends in the development and organization of information work were in evidence in the Federal Republic of Germany (FRG). The attempts to overcome the "information crisis" have resulted in the mushrooming of information bodies, societies and unions. Information services are being offered on an ever wider scale by small private companies as well as large State agencies. Diverse information centres steadily grew in number, and by now exceed 40.

The Federal Republic of Germany now leans towards the so-called co-ordinated decentralization, which means co-ordination of specialized information bodies by a single specialized information centre. Information workers in FRG are working towards this goal.

There are two institutions in West Germany which are responsible for co-ordination of information work and elaboration of a general methodology on a country-wide level. These are the Institute for Documentation and the German Documentation Society.

The Institute for Documentation (Institut für Dokumentationswesen) was founded in 1961 as an information centre for co-ordination of documentation work in the FRG

In its capacity of a co-ordinating and guiding centre the Institute must in the first place provide for interaction of the existing information services. In the case of some gaps in information services the Institute must take the initiative in creating new services and, according to circumstances, also in partial or full financial support. Besides, the Institute has considerable resources for financing specific ventures in the information field. Thus, it spends considerable sums on research in automation of information procedures. Appreciable outlays are involved in the training of information workers, which is carried out mainly within the framework of the German Documentation Society.

The German Documentation Society (Deutsche Gesellschaft für Dokumentation) is responsible for the working out of methodological principles of information activities. The Society's functions are:

- To develop general principles and basic procedures in all fields of documentation and information;
- To promote the development and improvement of technical auxiliary means of mechanization and automation of information work;
- To train and improve professional skills of information officers;
- To develop and standardize terminology in documentation and information;
- To keep track of the progress in documentation and information in all domains of science and technology.

The Gmelin Institute is a major specialized information centre in West Germany. Its publications are well known and enjoy wide popularity in all countries of the world. The main line of activity of the Institute is the preparation and publication of a reference book in inorganic chemistry which is scheduled for completion in 1970 and is to cover a period from 1750 to 1950s. The huge reference information collection in the Institute is used as the base for a reference information service which provides answers to requests coming from research institutes and enterprises.

In 1957, a national information Centre for Atomic Energy was initiated at Gmelin Institute. The Centre collects and processes reports, conference proceedings, dissertations, patents and other literature on the peaceful uses of atomic energy, issues bibliographic indexes and provides information and reference services to specialists.

Important work in the field of technical information in FRG is carried out by various societies and unions. Thus, the Society for Chemical Apparatus and Machine Building systematizes relevant literature, prepares abstracts of technical journal articles and compiles reviews, acting as a specialized documentation centre.

In the mechanical engineering field, information services are provided by the Union of German Engineering Enterprises which issues abstracts on cards.

The Union of German Metallurgical Engineers issues indexing periodicals, compiles topical bibliographic lists and supplies microfilms and photocopies of documents.

Technical information services operate at industrial enterprises in West Germany. They are engaged in the processing and circulation of scientific and technical literature of interest to the shop, division and laboratory personnel of the enterprise, as well as in popularization of new work methods and production of information references.

Large companies and enterprises in West Germany, among them BASF, AEG, Siemens and others, have specialized information centres.

Technical and research libraries of which there are more than 600 and university libraries play an important role in the information system in the Federal Republic.

ITALY

The information system in Italy is characterized by decentralization, although there are about 1,700 information centres and special libraries in the country now.

The information and documentation services are subordinated to the interests of large companies, concerns and enterprises and are branch-oriented. In addition, there are centres set up at large academic institutes, research laboratories and associations which pursue work in the field of bibliographic information, on development of author and classified catalogues, on mechanized information retrieval, machine translation, etc. Special and technical libraries feature prominently in the dissemination of information.

Italy's largest information centre is the National Centre for Scientific Documentation of the National Research Council (Centro nazionale di documentazione scientifica, Consiglio nazionale delle ricerche).

The National Centre for Scientific Documentation was established in 1956. Originally it was called National Centre of Technical Data.

The Centre's duties include collection of information in different areas of science and technology, preparation of references on demand, document reproduction services, compilation of bibliographic surveys, and dissemination of information. In addition, the Centre translates scientific and technical literature.

The Centre has a photographic laboratory which, besides production of microfilms and photocopies of different papers, also searches literature which is photocopie receives literature from other libraries in Italy, and mails photocopies and microfilms to users. The laboratory is fitted out with the most up-to-date reproduction equipment.

The Centre has access to the National Research Council library which has 150,000 books and 6,000 scientific and technical periodicals in its collections. The Centre supplies bibliographic references on demand.

The Centre issues a bibliography (Note di bibliografia e di documentazione scientifica) which contains bibliographic details of scientific and technical publications since 1955. The following card files are maintained at the Centre: (1) a file of Italian and foreign periodicals in science and technology; (2) a file of specialized information bodies for scientific and technical information, and (3) a file of information specialists and translators.

There is a special service at the Centre which has the function of searching for literature in all fields of science and preparation of bibliographic information on the current state and development of research studies in Italy.

The main technical information services in Italy are concentrated in large cities. The majority of private and State concerns have specialized information bodies which give service to specific divisions and enterprises of concerns. For instance, the concern of FIAT has the following documentation services:

1. The documentation service of the metallurgical division (Sezione ferriere Piemontese). The service was established in 1959 and is engaged in collecting metallurgical documentation. It includes the following subdivisions: the bibliographic information department, the documentation department and a library (which has 1,400 books, 120 periodicals and a processing laboratory). The service issues a monthly technical bulletin (Bolletion tecnico mensile) and a bulletin of research and development projects completed by the service (Lavori Servizio Studie ricerche).

2. The documentation service at the division of Stabilimento Grandi Motori (large-size engine plant). The service was established in 1927 and collects information in the subject field indicated. It has a processing laboratory, a library for the workers on the concern's enterprises and author and subject catalogues. The library has a book stock of 8,000 volumes and a collection of 300 periodical titles.

3. The documentation service at the nuclear energy division (Sezione Energia Nucleare). The service was established in 1957 and is engaged in the collection, processing, and dissemination of information in mechanical engineering and nuclear reactor physics. There is a library with a book stock of 1,750 volumes (for the company's workers). A catalogue of all research reports coming to the library is published.

The concern of Montecatini (Montecatini - Societa per l'industria mineraria e chimica) owns large chemical and mining complexes. Its documentation service is situated in Milan. The service collects, processes and disseminates information in chemistry and chemical machine building. The service's main divisions are: the bibliographic information department, the documentation department, the photographic laboratory and the library (4,100 books and 150 periodicals). The services issues a technical documentation bulletin (Bolletiono di documenzazione techica).

The concern incorporates also 23 research institutions which have their own information and documentation services.

A special information and documentation division exists at Olivetti and Spa which manufactures typewriters and calculating machines.

The duties of the company's information centre are discharged by the Divisione Commerciale electronica which was formed in Milan in 1959.

BELGIUM

There are more than 250 documentation centres and libraries in Belgium which are concerned with collection, processing and dissemination of scientific and technical information.

The National Centre of Scientific and Technical Documentation develops methodology of information work and discharges certain co-ordinating functions in the information field in Belgium. The Centre of Scientific and Technical Documentation supplies information on exact and applied sciences, technology and agriculture to factory laboratories, and research centres. In conjunction with the Royal Library and other competent organizations the Centre accomplishes the following tasks:

- Systematic documentation searches (periodical articles, reports, etc.) for scientific workers and industrial enterprises;
- On-demand provision of bibliographic references and brief surveys of the current state of development of a particular branch of science or technology in one or several countries;
- Information searches in other Belgiun centres or in foreign centres when the information required is not to be found locally;
- Study and application of modern technical means (punched cards, computers, etc.) to the information centre operation, and training of information specialists.

The Centre's duties also include establishment of international co-operation with similar centres in foreign countries and of direct relations with international bodies.

The Centre has a photocopying department, and an international congresses service. The Centre's director exercises administrative and scientific control of the operations. The activities of the Centre are financed by the Ministry of National Education and Culture.

The Question and Answer Service set up at the Centre provides scientific workers with a variety of information materials in the shape of brief bibliographic references, surveys, analytical reviews, etc. on a particular topic. This work is carried out by the subject specialists who are on the staff of the Centre.

The Centre does not prepare abstracts or issue any subscription publications; it produces on demand lists of journal papers and reports in which customers can quickly locate the publications of their interest.

Great attention is attached to the reference information work and document reproduction services. Orders arrive daily from universities, higher institutions of learning, industrial enterprises and some 75 research institutes. The Centre maintains permanent contact with 1,400 factories, research centres, information bodies, and libraries in Belgium and other countries.

The principal users of the information disseminated by the Centre are research libraries and documentation centres at industrial enterprises, research centres and laboratories. The Centre emphasises information services to the country's industry.

By way of illustration of the activities of information agencies in the field of dissemination of technical knowledge among industrial personnel, the operations of the research centre of Fabrimetal (Fabrications metalliques) enterprises can be described.

In order to provide industrial personnel with information on technical innovations, Fabrimetal organizes jointly with its research centre the so-called "collective information" which consists in lectures, seminars and colloquia on specific problems of production (e.g. modern trends in the machine tool industry in the United States; recent advances in the foundry industry, welding, etc.).

For many years now Fabrimetal and its research centre have provided customized technical assistance to industrial personnel in the field of foundry, welding, metal structures, etc.

With a view to facilitating the circulation of standards Fabrimetal issues, with the help of its research centre, hundreds of sheets called Normalien which provide basic data on Belgian standards. These sheets are intended for engineering personnel in shops and design bureaux, which receive, free of charge, brief information on research results which sometimes take years to obtain.

One effective way of communication between a research centre and industry is provided by the semi-monthly information bulletin which contains short abstracts (5-10 lines) of articles from 400 journals. The bulletin is circulated to 500 enterprises. In addition to the bulletin, bibliographic cards are produced and photocopies of articles are supplied on demand.

Personal contacts play an important role in the information communication in industry, and for this reason some Belgian information experts believe that introduction of the post of the so-called "technical communication agent", particularly at small- and medium-sized enterprises, ought to become a standard practice in Belgium.

In order to ensure effective connexion between industry and the research centre, Fabrimetal performs what amounts to selective dissemination of information on research results and uses the feedback principle which ensures that documents sent to a specialist always conform to the information he needs.

A joint Belgian-Luxemburg Steel Information Centre has been instituted in order to set up an information service for the steel industry. All steeel and iron enterprises in Belgium and Luxemburg give their assistance to the Centre. The Centre publishes a journal - Steel - in French, English, German and Portuguese. It makes wide use of such information dissemination facilities as film showings, conferences and exhibitions, Many of the information materials coming to the Centre are from the ferrous metal industry documentation centre in Paris. The Centre reprints abstracts from the Chemical Abstracts and the French Documentation Centre bulletin onto cards which are disseminated by subscription.

Belgium has an elaborate network of special research libraries which service personnel at industrial enterprises, research institutions, laboratories and universities. The first library to be mentioned among the largest Belgian libraries is the Royal Library which, being the only centralized book depository in the country, acts as the central scientific and technical library. The Royal Library fulfills orders for photographs, microfilms, microcards, colour photographs, etc.

At the moment the Library has a book collection of more than 2 million volumes plus 18,000 periodicals, microforms, maps, etc. There is a rare book division.

One of the self-sufficient divisions of the Royal Library is the Belgian Centre of Translations which was constituted as a separate unit in March 1965.

The Centre has the following tasks:

- Centralized searching, collection and dissemination of translations which are made in Belgium and are not for sale;
- Taking care of translation and acquisition of existing translations from Slavonic and Asiatic languages in the field of agriculture;
- Selection of translators from rare languages;
- Keeping research centres and industrial personnel in Belgium aware of current research activities in countries which present the "language barrier" (USSR, Japan, Sweden, Norway, etc.).

The functions of the Centre also include answering the requests of the Royal Library readers (students, teachers, etc.), document searches, provision of references by telephone, translation of letters, and transliteration of texts for the Royal Library and other State institutions.

An appreciable role in the dissemination of scientific information among laboratories and research centres in Belgium is played by libraries of the Brussels, Ghent, Liège and Lovain universities and a number of higher institutions of learning.

DENMARK

The Danish Technical Information Service (Dansk Teknisk Oplysningstjeneste) was established in 1956 with a view to providing an information service for the Danish industry and research organizations and to establishing regular exchange of information between research institutions, laboratories (there are more than 400 such bodies), and industrial firms (more than 1,000 firms with a staff of over 500 persons).

The Danish Technical Information Service (DTIS) working under the direction of the Danish Scientific and Industrial Research Council, serves as a direct link between the country's research institutions and industrial firms, or, more generally, between science and industry. DTIS is an independent organization and is administered by a committee on which are elected representatives and chairmen of leading Danish institutions and organizations: Scientific and Industrial Research Council, the Technical University, the Royal Veterinary and Agricultural College, the Academy of Technical Sciences, the Federation of Danish Industry and the Technological Institutes of Copenhagen and Jutland.

In the field of scientific research information DTIS performs the following tasks:

- Collection and circulation of technical and technicoeconomic reports and other information materials (both published and unpublished) which may be of interest and of use to industry;
- Assistance to the Scientific and Technical Research Council in the development of relations and enhancing the collaboration between industrial firms and research institutes;
- Organization of lectures, conferences and various study courses in order to promote introduction of research and development findings in industry;
- Co-operation with corresponding foreign information services.

DTIS collects information about the development of industrial production, including commercial (market research) and economic information, as well as information on problems of management of industry and individual firms.

DTIS believes that no research studies are of real value to the society unless their results have been utilized in industry and their economic effect can be estimated. The Danish Technical Information Service also takes into account the degree of readiness of a concrete company to apply the research results presented by a particular research centre.

By providing information services and maintaining the link between science and industry, DTIS supplies research institutions and industrial enterprises with information on the activities of domestic and foreign research institutions and information centres and presents reference literature on technical information sources, as well as special reports, e.g. of such organizations as the European Production Agency, the Organization for Economic Collaboration and Development, the National Research Council (Canada), etc. DTIS holds statistical and commercial reports on separate branches of industry, reports on the introduction of modern technologies, application of research findings and rationalization proposals. It receives periodical literature in less familiar languages (some 80 titles) and sends off prints to interested groups and individuals. Some information materials are supplied by inter-library loan (for a period of 8 days).

DTIS officers pay personal visits to industrial firms and research institutes in order to examine their needs, give consultations on the establishment of information services and on the feasibility of obtaining and using their information materials.

The Technical Information Service provides assistance in the establishment of direct contacts between firms and research institutions which may help them in solving their problems. DTIS conducts study courses at which the following subjects are taught: "The manager's responsibility for the organization of technical information", "Technical information systems and their use", "Written and oral information". DTIS members hold conferences at which information problems in the industrial branch, a separate firm or a research institution are discussed.

DTIS co-operates with regional and international organizations, such as FID, OECD, Scandoc, etc.

In its activities DTIS is guided by the principle of differentiated information services for different user categories. Such a principle in the selection and preparation of information facilitates the utilization of information received by the user.

CANADA

The Technical Information Service was established in 1945 within the structure of the National Research Council.

The main task of the Technical Information Service (TIS) is to supply technical information and to provide consultations on finding technical information sources to industrial firms. TIS supplies information on materials properties, new processes, rational organization of labour, as well as on research findings. It also supplies information on industrial material suppliers, and commercial associations which market manufactured products. TIS specialists have adequate experience of work in industry and therefore can prepare expert answers to the users' requests.

TIS is represented in two of Canada's largest industrial centres which are connected with the research councils in provinces. TIS staff members make extensive use of the services provided by the National Science Library which holds more than 700,000 items of scientific and technical literature.

To meet information requests of its users, the National Science Library produces, on request of TIS representatives, tens of thousands of pages of copies from periodical publications, technical reports and books, besides fulfilling requests for literature searches and preparation of bibliographic references. TIS personnel consult specialists at the government institutions of Canada (e.g. the Department of Industry, Statistical Bureau) and apply to technical information services in Britain, the United States, European countries. When a request is received, TIS officers will try to obtain detailed information on the requestor and the problem of his concern in order to be able to provide the most specific information in response to his request.

LATIN AMERICA

In characterizing technical information services in Latin American countries it should be noted that they belong to a common language area, which ought to favour the creation of regional unions and information centres. However, there are still but a few such centres. The most important among them are the Latin American Information Service for Translations into Spanish and the Inter-American School of Librarianship in Medellin.

The Latin American Translations Service established in Buenos Aires (Argentina) in 1966 makes translations of papers in science and technology, collects, stores, and disseminates translations, as well as maintains catalogues of translations made in Latin America and Spain.

In characterizing the state of information services as a whole it may be mentioned that in Central America advanced technical information services exist in Cuba and Mexico.

In South America all countries (except Peru) have centres of technical and scientific information. The most sophisticated technical information services are to be found in Brazil and Argentina. Thus, co-ordination of technical information work under the guidance of national information centres is a typical feature for most Latin American countries.

By way of illustration, technical information services in the three most advanced Latin American countries - Mexico, Brazil and Argentina - are briefly described below. There are considerable variations in the information services of these countries. Thus, in Mexico and Brazil on the one hand, scientific and technical information services are located in and co-ordinated from a common centre, while in Argentina technical and scientific information services are concentrated in specialized centres. On the other hand, whereas the scientific and technical information service in Brazil exemplifies a service catering almost exclusively to the country's internal needs, Mexico's information service acts in a way as a regional Latin American centre by meeting the information needs not only of its country but of other Latin American countries as well, which is considerably facilitated by the community having a common language in this vast geographic area.

MEXICO

The Centro de Documentación Científica y Técnica de México is one of the largest centres for scientific and technical information in Latin America. It was founded in 1950 with UNESCO support. The Centre's functions are:

- Collection, processing, storage and dissemination of scientific and technical information published in different countries of the world;

- Co-ordination of library services, co-operation with various information subscriptions, methodological guidance to libraries and information centres;
- Co-ordination of library subscriptions and recommendation on lists of periodical subscriptions in specialized libraries.

The Centre receives a large number of technical and scientific journals, in particular all periodical publications issued in Latin American countries. All the material coming to the Centre is systematized, classified, annotated and published as a monthly bibliographic bulletin, "Boletín del Centro de documentación y Técnica de México". The Bulletin publishes every year as many as 80,000 bibliographic references in different areas of science and technology, e.g. in metallurgy, chemistry, food industry, etc. It is a unique publication of this kind in Spanish-speaking countries and is therefore widely used in many countries of Latin America.

The Centre of Scientific and Technical Documentation compiles on request from companies, organizations and individuals, topical bibliographic lists of recent scientific and technical publications. It also fulfills orders for photocopying and microfilming, as well as translation into Spanish. It is worth mentioning that the bulk of requests (75 per cent) for translations comes from industrial firms and enterprises. The Centre receives requests for topical bibliographies from many Latin American countries: approximately 60 per cent of requests are from Mexico, and 40 per cent from other Latin American countries. Thus, the Centre of Scientific and Technical Documentation in Mexico to a certain extent acts as a Latin American centre of scientific and technical information.

Besides the Centre, Mexico has the Servicio de Informacion, Dirección general de Bibliotecas, Universidad Nacional Autónoma de Mexico, which maintains catalogues and supplies information on the technical literature sources which are held in its collections.

Information for industry is provided also by the Regional Centre for Technical Assistance (Centre Regional de Ayuda Técnica).

Large industrial enterprises and companies have their own information services which co-operate with the Centre of Scientific and Technical Documentation and enjoy its methodological guidance.

BRAZIL

The national centre for direction of reference and bibliographic activities in the country and co-ordination of publication of information materials is the Instituto Brasileiro Bibliografia e Documentacão. The Institute exchanges information materials, promotes library book exchanges, maintains a union catalogue, produces copies and microfilms of information materials, etc.

The Institute issues bibliographies on different problems which are of interest to Brazil. In particular, mention should be made of the extensive bibliography on problems associated with the Amazon river basin (Amazonia-Bibliografia).

The Institute publishes a monthly Boletin Informatico which supplies bibliographic details of scientific and technical papers appearing in periodicals.

The union catalogue of the Brazilian Institute of Bibliography and Documentation comprises the major library catalogues in the country, including university libraries, institutes, Brazilian Academy of Sciences, as well as some foreign libraries. This catalogue furnishes a basis for preparation of topical bibliographies requested by industrial enterprises, companies, institutions, and individuals. A large volume of orders for copying and microfilming is also fulfilled.

In addition to the Brazilian Institute of Bibliography and Documentation, there is a ramified network of information services which come under the authority of federal institutions, state bodies, research institutes, industrial syndicates and individual companies. The majority of information bodies is concentrated in the industriallly advanced States: thus, the State of Guanabara has 75 such centres, the State of Saõ Paulo, 34. The distribution of information services by the other States is as follows: Amazonas - 1; Bahia - 2; Ceara - 2; Distrito Federal - 7; Espirito Santo - 1; Goias - 1; Minas Gerais - 4; Para - 3; Parana - 4; Pernambuco - 5; Rio Grande de Northe - 1; Rio Grande do Sul - 6; Rio de Janeiro - 3; Santa Catarina - 1. Thus, the total number of Brazilian information services of different purpose and level is 150. It should be mentioned also that information services are operated by all ministries, including the Ministry of Industry and Commerce, as well as by major institutes, such as the Institute of Coffee, and industrial companies.

Very advanced information and documentation systems exist in large industrial concerns. For example, Petrobras (Petroleo Brasileiro S.A.), a State oil producing and processing company, has information and documentation sectors in its major divisions, as well as a special Department of Cocumentation, Technology and Patents.

There is a regional centre which has the task of providing information services to the backward areas of the North-East of Brazil. It is called Technical and Scientific Documentation and Information Centre of North-East.

In 1968-1969 UNESCO experts provided assistance in organizing the library, documentation and archival services in Brazil.

ARGENTINA

In contrast to other Latin American countries, the scientific and technical information activities within the national information service of Argentina are delimited and are carried out by different information centres.

At present, there are four national information centres in Argentina which provide services in the fields of science, technology, education, agriculture: Centre of Scientific Documentation under the National Scientific and Technical Research Council, the Centre of Documentation Research of the National Institute of Industrial Technology, the National Educational Documentation and Information Centre, and the Agricultural Information Centre at the National Institute for Agricultural Technology.

Argentine industry obtains technical information from the Centre of Documentation Research of the National Institute of Industrial Technology. The Centre has a collection of books and periodicals (both domestic and foreign) in different areas of science and technology which are of interest to the Argentine industry. This collection backs up the information services provided by the Centre to industrial enterprises, firms, and individuals. Information may take the form of bibliographic lists, as well as various other forms, including technico-economic surveys. Wide use is made of abstract publications issued in other countries, the holdings of scientific and technical libraries, as well as collections of information centres in other countries with which the Centre maintains constant ties.

The Centre publishes an information bulletin in the shape of series in different technical areas, which cover the articles in periodicals received by the Centre. A review of Argentine technical journals is issued as a supplement to the bulletin.

The Centre of Documentation Research fulfills orders for copying and microfilming of different technical documents, and helps its customers in purchasing necessary documents.

It also supplies Spanish translations of technical papers made on demand.

A number of organizations, industrial firms, and individuals interested in the work of the Centre of Documentation Research and making regular use of its services, give financial support to its operation, which makes it unnecessary for them to keep their own information and documentation services. They are given favourable terms in the use of the Centre's services.

Large industrial enterprises and companies in Argentina, as in Brazil, establish their own technical and patent information services which may apply for technical and methodological assistance to the Centre of Documentation Research.

What has been said of technical information systems in different countries of the world indicates that they base themselves on different organizational principles which more or less accord with the economic and scientific level and national character of each country. Thus, it is hardly possible to give any cut and dried rules for building a technical information system in a country. However, familiarity with the information systems existing in advanced countries may help the developing countries in working out their own conception of a technical information system which would suit the conditions of these countries.

SUPPLEMENT

Information and documentation
services for industry in OECD member
countries and in some Latin American countries

ANNOTATED BIBLIOGRAPHY

(in English and in Russian)

Compiled from Abstract Journal "Informatics"
Academy of Sciences of USSR (VINITI)

OECD COUNTRIES

BELGIUM

In English

68.1.216. *The national scientific and technical documentation centre of Belgium.*— De Jaeger, Herman. Het informatieprobleem en het Nationaal centrum voor wetenschappelijke en technische documentatie. «Organis. scient.», 1967, *41*, No. 5, 135—147. (In Flemish and French).

In January 1964, Belgium set up its National scientific and technical documentation centre to cover medicine, pure and applied sciences, technology, agriculture and all exact sciences. The Centre's major objectives are: systematic information retrieval to request from Belgian researchers; provision of necessary references — in case the Centre cannot provide its customers with necessary documents, they are referred to other information agencies; linking individual researchers with research organizations; studies in the technical facilities for mechanized and automated information processing. In addition, the Centre publishes the «General Belgian-Luxembourg catalogue of foreign periodicals», maintains a continuous record of Belgian scientific publications and the list of specialized Belgian documentation centres with reference to their information potential, keeps research workers informed of international scientific congresses and conferences held throughout the world. The Centre can be directly contacted by research organizations of all nations, industrial enterprises and individual Belgian researchers. V. Kroz

68.8.273. *The Belgian Institute of Information and Documentation* — Ugeux, William. Propos sur la documentation dans le secteur public. «Cahiers docum.», 1967, *21*, No. 3—4, 91—99, 92—93. (In French; English and Flemish summaries).

The structure and activities of the Institute are described. The Institute provides information in economics and social sciences to ministries and departments within the country as well as to all Belgian official agencies abroad.

68.9.300. *The activity of the Belgian National Centre of Scientific and Technical Documentation, 1967.*— Rapport d'activité 1967. Centre national de documentation scientifique et technique. S. l., s. a., 36 p., ill. (In French).

In 1967 the Centre was engaged in systematic studies of the problems of automatic information services and training of information officers at refreshment and extension courses. The most prominent result is to be seen in the recognition of the Centre by Belgian scientific research institutions and international organizations, such as UNESCO, Euratom, etc. V. B.

In Russian

68.1.216. [Национальный центр научной и технической документации Бельгии]. De Jaeger Herman. Het informatieprobleem en het Nationaal centrum voor wetenschappelijke en technische documentatie. «Organis. scient.», 1967, 41, № 5, 135—147 (флам., франц.)

В январе 1964 г. в Бельгии был создан Национальный центр научной и технической документации, деятельность которого охватывает медицину, фундаментальные и прикладные науки, технологию, сельское хозяйство и все точные науки. Основные задачи центра: проведение систематического поиска информации по заявкам бельгийских исследователей; снабжение их необходимыми библиографическими справками; направление их в другие информационные организации, если в центре отсутствуют требуемые документы; посредничество между отдельными исследователями и исследовательскими организациями; изучение технических средств механизации и автоматизации обработки информации. Кроме того, центр выпускает «Общий бельгийско-люксембургский каталог публикуемых иностранных периодических изданий», ведет постоянный учет бельгийских научных публикаций и реестр специализированных центров документации Бельгии с указанием их возможностей в области информации, информирует исследователей о проводимых во всем мире международных научных конгрессах и конференциях. Центр имеет прямые связи с научно-исследовательскими организациями всего мира, с промышленными предприятиями, а также с отдельными исследователями Бельгии. В. Кроз

68.8.273. [Институт информации и документации Бельгии]. Ugeux William. Propos sur la documentation dans le secteur public. «Cahiers docum.», 1967, 21, № 3-4, 91—99, 92—93 (франц.; рез. флам., англ.)

Описывается структура и деятельность Института информации и документации Бельгии, который снабжает необходимой информацией в области экономических и общественных наук все официальные представительства Бельгии за рубежом, а также министерства и ведомства внутри страны. Резюме

68.9.300. [Отчет о работе Национального центра научной и технической информации Бельгии за 1967 г.] —Rapport d'activité 1967. Centre national de documentation scientifique et technique. S. l., s. a., 36p., ill. (франц.)

В 1967 г. Центр занимался систематическим изучением проблем автоматизации информационных работ и подготовкой информационных кадров на курсах повышения квалификации. Наиболее важным результатом является признание Центра научно-исследовательскими учреждениями Бельгии и международными организациями (ЮНЕСКО, Евратомом и т. д.). В. Б.

68.1.218 B. *An inventory of Belgian research centres having a library or a documentation service.*— Inventaire des centres belges de recherche disposant d'une bibliothèque ou d'un service de documentation. (Centre nat. document. scient. et techn.). Bruxelles, Bibliothèque royale, 1967, 331 p. (In French and Flemish).

In 1967, the National Scientific and Technical Information Centre jointly with the Royal Library in Brussels (Belgium) published an «Inventory of Belgian research centres having a library or a documentation service» based on the files of the National Committee on Scientific Policies, National Scientific Research Fund and other organizations, on materials obtained for the preparation of the «General Belgian and Luxemburg catalogue of foreign periodicals» and direct contacts between the compilers and various research organizations. It contains a list and brief descriptions of the library and information collections of the organizations grouped on the regional principle, besides a subject index of special interests of the organizations mentioned, index of names (directors of the organizations, chief librarians or information officers), alphabetical index of towns and cities. The purpose of the publication is to provide access to highly specialized literature or information, to coordinate efforts in information retrieval and to obtain the required information from specialized agencies. I. Gruzinova

68.11.224. *Special libraries and information centres. Reorganization of information service.*— Walraet M. Bibliothèques spéciales et centres de documentation: regroupement et restructuration. «Arch. et bibl. Belg.», 1969, *40*, No. 1—2, 13—33. (In French).

At present the Belgian information network includes about 150 centres, mostly non-co-ordinated. There is no national centre for information. The Belgian Library Association suggested a reorganized national information network and a new National Council to co-ordinate all libraries; this Council is expected to incorporate a technical bureau and a permanent Secretariat. According to the author, Belgium lags behind other countries in mechanizing and automatizing library operations. It is proposed that information agencies be amalgamated in each branch based on their common goals. 28 refs. E. Parshina

68.1.218 К. Перечень бельгийских исследовательских центров, имеющих библиотеку или службу документации. Inventaire des centres belges de recherche disposant d'une bibliothèque ou d'un service de documentation. (Centre nat. document. scient. et techn.). Bruxelles, Bibliothèque royale, 1967, 331p. (франц. и флам.)

В 1967 г. Национальным центром научной и технической информации и Королевской библиотекой в Брюсселе (Бельгия) был издан «Перечень бельгийских исследовательских центров, имеющих библиотеку или службы документации». Он составлен по различным картотекам Национального комитета по научной политике, Национального фонда научных исследований и других организаций по материалам, которые были получены в результате работы над «Коллективным каталогом иностранной периодики, имеющейся в библиотеках Бельгии и Люксембурга» и непосредственных связей составителей с различными научно-исследовательскими организациями. Основной материал справочника — перечень и краткая характеристика библиотечных и информационных фондов организаций, сгруппированных по географическому признаку. Вспомогательный аппарат справочника — предметный указатель тематики или специализации указанных организаций, указатель фамилий, алфавитный указатель городов. Цель издания — ознакомление с узкоспециальной литературой или получение информации, координация усилий по информационному поиску и получение соответствующих сведений от профильных организаций.

И. Грузинова

68.11.224. Специальные библиотеки и информационные центры. Реорганизация информационной службы. Walraet M. Bibliothèques spéciales et centres de documentation: regroupement et restructuration. «Arch. et bibl. Belg.», 1969, 40, № 1—2, 13—33 (франц.)

Характеризуется современное состояние информационной системы Бельгии, включающей около 150 информационных центров, в основном не связанных в своей деятельности. Указывается на отсутствие единого национального центра. Рассматривается предложение Ассоциации Библиотек Бельгии о реорганизации информационной системы страны и о создании Научного совета, координирующего деятельность библиотек; при Совете предполагается организовать техническое бюро и постоянно действующий секретариат. Отмечается значительное отставание в области механизации и автоматизации библиотечных процессов. Предполагается объединить информационные органы по отраслям и общности их задач. Библ. 28. Е. Паршина

DENMARK

68.8.275. *Danish technical information service.*— Klintoe, Kjeld. «Proc. 2nd Conf. Jesus Coll., Oxford, 1966», London, Inst. Inform. Scientists, 1968, 35—38. Discuss., 38—40. (In English).

The activities of the Danish Technical Information Service (DTO) are carried out (1) via contacts with industry and commerce and via meetings devoted to various information problems; (2) via question-and-answer service (both) by telephone or by letter. An information officer investigates the request, establishes personal contact between the inquirer and the specialist, and ensures that the request is fulfilled. Frequently, the information officer must handle the question himself and give answers based on the materials available at DTO; (3) via analysis of the activities of individual companies and their supply whith information which can be useful for them; (4) via courses for top managers, via conferences, lectures, and seminars lasting 2—2.5 days; (5) via a consultant service for top managers on the establishment of information services in companies and on the organization of an information dissemination system. N. Veremchuk

68.8.275. Служба технической информации Дании. Klintoe Kjeld. Danish technical information service. «Proc. 2nd. Conf. Jesus Coll., Oxford, 1966». London, Inst. Inform. Scientists, 1968, 35—38. Discuss., 38—40 (англ.)

Деятельность службы технической информации Дании выражается в следующих формах: 1. Личные контакты с представителями фирм и предприятий, а также организация совещаний по различным аспектам информационной деятельности. 2. Ответы на запросы, получаемые по телефону или в письменной форме. Работник службы информации исследует запрос, устанавливает контакт между заинтересованным лицом и специалистом и следит за выполнением ответа на запрос. Часто информационный работник должен непосредственно сам обрабатывать запрос и давать ответ на основании материалов службы технической информации. 3. Анализ деятельности различных фирм и предприятий и рассылка им информационных материалов, полезных для них с точки зрения работника службы. 4. Организация курсов для руководящих работников фирм и предприятий, созыв конференций, чтение лекций и проведение 1—2 дневных семинаров. Для рядовых работников организуются однодневные курсы в разных заводах. 5. Консультации для руководящих работников по вопросу создания информационных служб в фирмах и на предприятиях и организации системы распространения информации. Н. Веремчук

68.4.318. *Technical information service in Denmark.*— Teknisk informasionsservice i Danmark. «Tekn. ukebl.», 1967, *114*, No. 42, 772. (In Norwegian).

An information service has been set up under the Danish Technical Library (with Documentation Centre) and the Danish Information Bureau. The working practices of the library, its contacts with USA information services and its publications are described. The library offers courses for training specialists in information retrieval and dissemination. Placing much stress on verbal information, the Information Bureau maintains personal contacts with the staff of industrial enterprises, research institutes and laboratories. The Bureau organizes courses to instruct specialists how to handle technical literature and documents; it also assists in establishing information services at enterprises, research institutes and laboratories. M. Tapeizon

70.1.271. *Denmark's Technical Information Service.*— Meedom M. Service d'information technique danois. «Bull. Unesco biblioth.», 1969, 23, No 4, 216—220 (In French).

The Service was established in 1955 as an institute of the Academy of Applied Sciences. In 1961, it was handed over to the Danish Council for Scientific and Industrial Research. The principal forms of its activities are the establishment of relations with enterprises, arrangement of lectures and training courses, and provision of abstracting services to them. The Service is a national member of SCANDOC. N. S.

69.6.213. *The story of DTO (Dansk Teknisk Oplysningstjeneste): Danish Technical Information Service.*— Klintøe, Kjeld. «Ann. Libr. Sci. and Docum.», 1968, *15*, No. 1, 1—6 (In English).

Since the inception of the Danish Technical Information Service in 1956, its major task has been the setting up of close contact between the researchers and the industry. Some phases in the Service's history are analyzed. L. P.

68.4.318. Служба технической информации в Дании.— Teknisk informasionsservice i Danmark. «Tekn. ukebl.», 1967, 114, № 42, 772 (норв.)

Информационная служба создана при Датской технической библиотеке (с Документационным центром) и Датском информационном бюро. Перечислены формы работы библиотеки, ее связи с информационными службами США, указаны выпускаемые ею издания. При библиотеке организованы курсы для подготовки специалистов по поиску и распространению информации. Информационное бюро, придавая большое значение устному информированию, поддерживает постоянный личный контакт с работниками промышленных предприятий, научно-исследовательских институтов и лабораторий. Бюро организует курсы по обучению работе с технической литературой и документацией, осуществляет помощь по созданию информационных служб на предприятиях, в исследовательских институтах и лабораториях. М. Тапельзон

70.1.271. Служба технической информации Дании. Meedom M. Service d'information technique danois. «Bull. Unesco biblioth.», 1969, 23, № 4, 216—220 (франц.)

Служба технической информации Дании была создана в 1955 г. как один из институтов Академии прикладных наук. В 1961 г. он был передан в ведение Датского совета по научным и промышленным исследованиям. Основные направления ее деятельности: налаживание связей с предприятиями и организация лекций и курсов, обеспечение их реферативной информацией. Служба является национальным членом SCANDOC. Н. С.

69.6.213. Деятельность Центра научной и технической информации Дании. Klintoe Kjeld. The story of DTO (Dansk Teknisk Oplysningstjeneste): Danish Technical Information Service. «Ann. Libr. Sci. and Docum.». 1968, 15, № 1, 1—6 (англ.)

Основной задачей Центра научной и технической информации Дании, организованного в 1956 г., является установление контактов между исследователями и производственниками. Характеризуются отдельные этапы деятельности Центра. Л. П.

FRANCE

68.5.350. *Documentation in France.*— Roussiere Ph. de la. La documentation en France. «Aktual. probl. inform. i dokum.», 1967, *12*, No. 4—5, 8—10. Dysk., 50—53. (In French; Polish, Russian and English summary).

Documentation in France is described. Various information centres, including the Centre under the Prime-Minister's Bureau, centres for some ministries, university libraries, specialized centres and centres of scientific and public organizations are characterised. Cooperation of these centres between themselves and with university libraries, the Documentation Centre of the National Scientific Research Centre, and with international agencies, such as FID, is considered. Prospects and trends of development of documentation are discussed, among them automation of information processes, preparation of thesauri, etc. At present, steps are taken to set up a National Scientific Documentation Department to coordinate French information activities. F. Zeromska (PPR)

70.1.273. *The French National Committee for Scientific and Technical Documentation.*—Comité national français de documentation scientifique et technique. «Bull. Unesco biblioth.», 1969, 23, No 4, 242—243. (In French).

A National Committee for Scientific and Technical Documentation is set up under the General Delegation for Scientific and Technical Research. It is entrusted essentially with the tasks of elaboration of recommendations directed towards the implementation of the national policy in the field of scientific and technical information, in particular, towards coordination of information activities, promotion of information exchange, etc. N. S.

68.5.350. Документация во Франции. Roussiere Ph. de la. La documentation en France. «Aktual. probl. inform. i dokum.», 1967, 12, № 4—5, 8—10. Dysk., 50—53 (франц.; рез. польск., русск., англ.)

Характеризуется документационная деятельность во Франции. Рассматриваются различные центры документации, в том числе Центр при Бюро премьер-министра, центры отдельных министерств, университетских библиотек, а также специализированные центры и центры научных и общественных организаций. Описывается сотрудничество этих центров друг с другом, с университетскими библиотеками, Центром документации Национального центра научных исследований, а также с международными организациями, например с МФД. Рассматриваются перспективы и направления развития документационной деятельности, в частности, в области автоматизации работ, создания тезаурусов и т. д. В настоящее время предпринимаются меры, направленные на создание Национального управления научной документации, который бы координировал информационную деятельность во Франции. F. Zeromska (ПНР)

70.1.273. Национальный комитет по научной и технической информации Франции.— Comité national français de documentation scientifique et technique. «Bull. Unesco biblioth.», 1969, 23, № 4, 242—243 (франц.)

Национальный комитет по научной и технической информации создан при Генеральной делегации по научным и техническим исследованиям. Основные его задачи: разработка рекомендаций, направленных на осуществление национальной политики в области научной и технической информации, в частности на координирование информационной деятельности; содействие взаимному обмену информацией и др. Н. С.

68.9.301. *The activity of the Regional Information Centre under the National Institute of Industrial Property in Marseilles.*— L'activité du Centre régional de documentation de l'Institut national de la propriété industrielle à Marseille. «S. E. industr. et commerc.», 1968, *19*, No. 274, 19. (In French).

The Regional Information Centre under the National Institute of Industrial Property (France) possesses a large document collection including French and foreign patents, annual patent indexes, file of abbreviations in French patents, official bulletins published by the National Institute of Industrial Property, etc. The Centre has a duplication service. The Centre's tasks include: promotion of contacts with research establishments within its region; provision of patent information to researchers and industrial managers; assistance in establishing close contacts between inventors and specialists for prompter application of inventions in production, etc. V. Bobrova

68.9.301. Деятельность регионального центра информации при Национальном институте по охране промышленной собственности г. Марсель. —L'activité du Centre régional de documentation de l'Institut national de la propriété industrielle, à Marseille. «S.—E. industr. et commerc.», 1968, 19, № 274, 19 (франц.)

Региональный центр информации при Национальном институте по охране промышленной собственности (г. Марсель) имеет обширную документацию: французские и иностранные патенты, ежегодные указатели патентов, каталог сокращений французских патентов, официальные бюллетени Национального института по охране промышленной собственности и т. д. Центр имеет службу репродуцирования документов. В задачи Центра входит расширение контактов с научно-исследовательскими организациями округа; обеспечение патентной информацией исследователей, руководителей предприятий; содействие установлению тесных связей между изобретателями и специалистами промышленных предприятий для скорейшего внедрения изобретений на предприятиях и т. п. В. Боброва

68.11.371. *Construction information in France.*— Antosiewich Wojciech. Francuska služba informacji w budownictwie. «Aktual. probl. inform. i dokum.», 1968, *13*, No 3, 15—17. (In Polish; Russian, English and French summary).

4 groups of information centres are listed: those at scientific institutions and educational establishments; at state and private-owned industrial enterprises; at some governmental agencies, societies, editorial offices, publishing houses; centres operating on a commercial basis. Description is provided of the organizational pattern and activities of the following construction information centres: Construction Information and Documentation Centre, Documentation Centre under the Institute of Construction Machinery and Public Works, Documentation Centre under the Scientific and Technical Centre for Construction.

68.11.371. Информационная деятельность в области строительства во Франции. Antosiewicz Wojciech. Francuska služba informacji w budownictwie. «Aktual. probl. inform. i dokum.», 1968, 13, № 3, 15—17 (польск.; рез. русск., англ., франц.)

Перечислены 4 группы информационных центров: при научных учреждениях и учебных заведениях; при государственных и частных производственных предприятиях; при некоторых государственных учреждениях, обществах, редакциях, издательствах; центры, выполняющие заказы. Описывается организация и деятельность следующих информационных центров по строительству: Центра информации и документации по строительству, Центра документации при Институте строительной техники и общественных работ, Центра документации при научном и техническом центре по строительству.

FEDERAL REPUBLIC OF GERMANY

68.1.208. *Scientific and technical information in FRG.*— Лежнев Ю. В. Научная и техническая информация в ФРГ. In collected articles «Научн. и техн. информация за рубежом», Вып. 2, М., 1967, 136—162. (In Russian).

The trends of progress in scientific and technical information in FRG and coordination of information activities on a national scale are discussed. Described are the activities of the German Documentation Society and branch agencies of scientific and technical information, including the Gmelin Institute, Atomic Energy Information Centre, etc. 2 ills., 20 refs. D. S.

68.1.208. Научная и техническая информация в ФРГ. Лежнев Ю. В. В сб. «Научн. и техн. информация за рубежом» Вып. 2. М., 1967, 136—162

Рассматриваются тенденции развития научно-технической информации в ФРГ и вопросы координации информационной деятельности в национальном масштабе. Описывается деятельность Немецкого общества по документации и отраслевых учреждений научно-технической информации, в том числе Института им. Гмелина, Центра информации по атомной энергии и др. Илл. 2. Библ. 20 назв. Д. С.

68.7.289. *Information centres in FRG.*— Toman, Jiři. Informační střediska v NSR. «Metodika a techn. inform.», 1967, *9*, No. 8—9, 55—67. (In Czech; Russian and English summary).

Description is provided of the activities of the specialized information centres of the BASF chemical enterprise, AEG concern, Hoechst chemical concern, RKW company, IBM computer factory, Siemens factory for teletype equipment and computers, and of information centres in the fields of civil construction, aircraft and space engineering. Data are cited on the major work lines of these centres, on the size of reference libraries, methods of processing and storing information, types of facilities used

-entists impose on their information service. The study was primarily aimed at revealing new opportunities of establishing closer relations between information and scientific work, at having a better account of the information needs of scientists and at the determination of the most effective forms of cooperation between information agencies on a national and international scale. A decision was taken to study this problem in other socialist countries.

68.7.289. Информационные центры ФРГ. Toman Jiři. Informační střediska v NSR. «Metodika a techn. inform.», 1967, 9, № 8-9, 55—67 (чешск.; рез. русск., англ.)

Описывается методика и формы работы, применяемые в специализированных информационных центрах химического предприятия BASF, концерна AEG, химического концерна Hoechst, фирмы RKW, завода вычислительных машин фирмы IBM, завода по производству телетайпной аппаратуры и вычислительных машин фирмы Simens и в информационных центрах по строительству, авиации и космонавтике. Приводятся данные об основных направлениях деятельности этих центров, объеме СИФ, методах обработки и хранения информации, типах используемого технического оборудования, предназначенного для механизации и автоматизации информационных процессов, количестве персонала и методах распространения информации. Отмечается необходимость широкого внедрения множительных средств в практику информационных работ. А. Юрко

69.10.254. *The engineer and literature. 10 years of the Technical Library.*— Tehnzen, Jobst. Der Ingenieur und das Schriftum. 10 Jahre Technische Informationsbibliothek. «Ind.-Anz.», 1969, *91*, No. 48, 1083—1086. (In German).

Information activity of the Technical Library in Hanover (FRG) is described. Data are cited on the use of technical literature, the Library's collections, services rendered to the users, the sources obtainable through the library. 2 ills., 13 refs. M. F.

69.12.259. *Scientific documentation and information.*— Wissenschaftliche Dokumentation und Information. Bundesbericht Forschung III—Zur Lage in der Bundesrepublik Deutschland. «Nachr. Dokum.», 1969, *20*, No. 4, 148—151. (In German, English summary).

The state-of-the-art in information theory and practice is discussed. Measures towards a higher efficiency of scientific information in FRG are described, including establishment of new information centres; development of information systems; research in informatics and generalization of facts revealed by practice; improvement of personnel training; participation in international programmes, etc. Specific prominence is given to the activities of science libraries, among them the Technical Information Library in Hannover, FRG, and to the role played by documentation and information centres for social sciences.

68.6.297. *Information and documentation in modern engineering.*— Dragon, Archibald. Information und Dokumentation in der modernen Technik. «Elektrotechn. Z.», 1968, B20, No. 2, 30—33 (In German, English and French summary).

Modern information methods in FRG are considered. Processing of a special journal article is traced throughout, from its initial scanning by the indexer and into its inclusion in the reference library as a slotted punched-card abstract, or into computer memory in a coded form. Information-producing organizations of FRG are to cooperate with each other. 6 ills., 9 refs. N. A.

70.2.273. *Information for science.*— Dokumentation für Wissenschaft und Forschung. «Dokum. Fachbibl. Werksbüchereі», 1969, *17*, No. 6, 155—158. (In German).

Various problems of information theory and practice in FRG are treated. Improved library activities are regarded to be a prerequisite of progress in science. It is proposed to establish a central agency to co-ordinate research in information theory and practice. International co-operation in patent information, nuclear and space research, chemistry, electronics and in other fields, is imperative. M. F.

68.7.288. *A study tour to FRG.*— Hamza, F. Voyage d'études en Allemagne. «Bull. ATD», 1967, 2, No. 2—3, 11—12. (In French).

In September 1967, a group of Tunisian documentalists from the Ali Bach Hamba Institute visited a number of information establishments of FRG in Bonn, Dusseldorf, Munich and Frankfurt (Main), and in West Berlin. They acquainted themselves with the activities of specialized documentation centres: the Federal Bureau of Testing Materials (Berlin), German Foreign Policy Association (Bonn), German Association of Engineers (Dusseldorf), etc., as well as of coordination centres, including the Centre for the Coordination of Political Documentation in Berlin. Some data are cited on the work carried in FRG in the field of classification, automation, standardization, and coordination of information. Description is also provided of the work of the National Standardization Institute, which represents in FID both GDR and FRG. D. Persits

69.8.212. *Establishment of a national information system for science and technology.*— Entschliessung zum Aufbau eines umfassenden deutschen Informations- und Dokumentationswesens für Wissenschaft und Technik. «Nachr. Dokum.», 1969, *20*, No. 2, 50—51. (In German).

The Union of Technical and Scientific Societies of the F. R. G. resolved to create a national information system for science and technology. N. A.

69.10.251. Состояние и направления развития информационной деятельности в ФРГ в 1965—1968 гг. Tempczyk Marian. Organizacja i kierunki rozwojowe dokumentacji i informacji w NRF w latach 1965—1968. «Aktual. probl. inform. dokum.», 1969, 14, № 2, 12—19 (польск.)

Освещается вопрос о состоянии информационной деятельности в ФРГ в 1965 г. и основных направлениях ее развития в 1968 г. Описаны принципы механизации и автоматизации информационных процессов и используемые технические средства. Рассматриваются причины широкого интереса к этим центрам, вызванного использованием в них интегрированных систем, охватывающих внутреннюю и внешнюю информацию. H. Stępniewska (ПНР)

69.12.259. Научная документация и информация.— Wissenschaftliche Dokumentation und Information. Bundesbericht Forschung III—Zur Lage in der Bundesrepublik Deutschland. «Nachr. Dokum.», 1969, 20, № 4, 148—151 (нем., рез. англ.)

Рассматривается состояние дел в области информационной теории и практики. Перечисляются мероприятия, направленные на повышение эффективности научно-информационной деятельности в ФРГ (создание информационных центров, разработка информационных систем, исследования по проблемам информатики и обобщение данных, полученных в ходе практической работы, улучшение системы подготовки кадров, участие в работе международных организаций и т. д.). Особое внимание уделяется деятельности научных библиотек, в частности Библиотеки технической информации (Ганновер, ФРГ), а также роли документационных и информационных центров в области общественных наук.

68.6.297. Информация и документация в современной технике. Dragon Archibald. Information und Dokumentation in der modernen Technik. «Elektrotechn. Z.», 1968, B20, № 2, 30—33 (нем.; рез. англ., франц.)

Рассматриваются современные методы работы в информационных организациях ФРГ. Прослеживаются этапы обработки статьи из специального журнала, начиная от ее первичного просмотра индексатором до помещения в СИФ в виде реферата на щелевых ПК или же до ее введения в закодированном виде в машинную память. Ставится вопрос о сотрудничестве информационных организаций страны. Илл. 6. Библ. 9 назв. Н. А.

70.2.273 (P-3461). [Информационную деятельность — на службу науке].— Dokumentation für Wissenschaft und Forschung. «Dokum. Fachbibl. Werksbücherei», 1969, 17, № 6, 195—198 (нем.)

Излагаются проблемы информационной теории и практики в ФРГ. Совершенствование библиотечной деятельности рассматривается как основа развития научной деятельности. Предлагается создать центральное учреждение по исследованиям в области информационной теории и практики. Подчеркивается необходимость международного сотрудничества в области патентной информации, ядерных и космических исследований, химии, электроники и в др. областях. М. Ф.

68.7.288. Научная поездка в ФРГ. Hamza F. Mme. Voyage d'etudes en Allemagne. «Bull. ATD», 1967, 2, № 2-3, 11—12 (франц.)

Группа документалистов Туниса, сотрудников института Ali Bach Hamba, в сентябре 1967 г. посетила несколько документационных учреждений ФРГ в Бонне, Берлине, Дюссельдорфе, Мюнхене и Франкфурте-на-Майне. Они ознакомились с работой специализированных центров документации: Федерального бюро испытаний материалов (Берлин), Немецкой ассоциации внешней политики (Бонн), Немецкой ассоциации инженеров (Дюссельдорф) и др., а также центров координации, в частности Центра координации политической документации в Берлине. Приводятся некоторые сведения о деятельности документалистов ФРГ в области классификации, автоматизации, стандартизации, координации информации. Описывается также деятельность Национального института стандартизации, представляющего в МФД как ГДР, так и ФРГ. Д. Персиц

69.8.212. Решение о создании единой информационной системы в области науки и техники.— Entschließung zum Aufbau eines umfassenden deutschen Informations- und Dokumentationswesens für Wissenschaft und Technik. «Nachr. Dokum.», 1969, 20, № 2, 50—51 (нем.)

Сообщается о решении Союза научно-технических обществ ФРГ создать единую информационную систему в области науки и техники. Н. А.

69.6.209 B. *Mechanization in documentation in the Federal Republic of Germany.*— Schneider, Klaus. Maschinelle Dokumentation in der Bundesrepublik Deutschland. Dritte Zusammenstellung. Stand vom 1. Januar 1968. «ZMD». (Publ.), 1968, A, No. 15; 57 S. (In German and English).

Brief information is cited on 55 information and library institutions of FRG which employ, or are planning to employ, mechanized information retrieval and processing systems. The data are cited as of January 1, 1968. V. P.

70.3.315. *The Central Institute for Machined Documentation.*— Die ZMD in Frankfurt am Main. (Zentralstelle fur maschinelle Dokumentation). Hrsg. Schneider, Klaus. Berlin-Köln-Frankfurt/M., Beuth-Vertrieb GmbH., 1969, 207 S., ill., 58 DM. (In German and English).

70.2.275. *The activity of the Centre for Machine Documentation* — Schneider, Klaus. Forschungsaufgaben, Entwicklungsarbeiten und Dienstleistungen der ZMD. «Nachr. Dokum.», 1969, *20*, No. 5, 220—222.(In German).

The 1964-founded Centre for Machine Documentation (FRG) was primarily for automatic preparation of national bibliographies. At present, CMD comprises four departments: organization, programming, machine and research. The Centre services all large science and information agencies. Yu. L.

69.2.208. *Automated processing of patent information.* — Pietsch, E. H. E. Automation der Patentdokumentation? Einige Gedanken zur Förderung der automatischen Ordnung und Auswertung von Patentliteratur. «Nachr. Dokum.», *19*, No. 4, 103—111. (In German; English summary)

The author summarizes the achievements of the Committee for Patent Documentation of the German Society for Documentation (FRG) for the last ten years, and proposes some steps for further improvements. Special groups must be set up to study the cooperation between the inventor and the Patent Office at the early stages. The importance of co-ordinated activities of documentation services and libraries, and the role of mechanized processing of patent documentation are emphasized. 47 refs. M. F.

68.5.332. *The development and organization of an information centre at a large industrial enterprise.*— Rein, Hans Günther. Entwicklung und Organisation einer Literaturabteilung der Crossindustrie. «Nachr. Dokum.», 1967, *18*, No. 6, 242—244. (In German).

69.6.209 К. Механизация информационных работ в ФРГ. Schneider Klaus. Maschinelle Dokumentation in der Bundesrepublik Deutschland. Dritte Zusammenstellung: Stand vom 1. Januar 1968. «ZMD» /Publ./, 1968, A, № 15, 57 S. (нем. и англ.)

Приведены краткие сведения о 55 информационных и библиотечных учреждениях ФРГ с действующими и проектируемыми механизированными системами поиска и обработки информации. (Данные представлены по состоянию на 1 января 1968 г.) В. П.

70.3.315(Р—3058). Центральный институт машинной обработки документации.— Die ZMD in Frankfurt am Main (Zentralstelle für maschinelle Dokumentation). Hrsg. Scheider Klaus. Berlin — Köln — Frankfurt/M., Beuth — Vertrieb GmbH., 1969, 207 S., ill., 58 DM (нем., англ.)

70.2.275 (Р-1067). [Деятельность Центра машинной документации]. Schneider Klaus. Forschungsaufgaben, Entwicklungsarbeiten und Dienstleistungen der ZMD. «Nachr. Dokum.», 1969, 20, № 5, 220—222 (нем.)

Центр машинной документации (ЦМД) ФРГ был создан в 1964 г. Его первой задачей было автоматизированное составление национальной библиографии. В настоящее время ЦМД состоит из четырех отделов: организационного, отдела программирования, машинного и научно-исследовательского. Центр обслуживает все крупные научные и информационные учреждения. Ю. Л.

69.2.208. [Машинная обработка патентной документации.] Pietsch E. H. E. Automation der Patentdokumentation? Einige Gedanken zur Förderung der automatischen Ordnung und Auswertung von Patentliteratur. «Nachr. Dokum.», 1968, 19, № 4, 103—111 (нем.; рез. англ.)

Подводятся итоги работы Комитета патентной документации Немецкого общества документации (ФРГ) за 10 лет и вносятся конкретные предложения по ее улучшению. Указывается, в частности, на необходимость создания группы по проверке патентов, цель которой — изучение вопроса о возможности установления сотрудничества между изобретателем и патентным бюро на ранних этапах работы. Подчеркивается значение совместной деятельности документационных служб и библиотек, а также роль машинной обработки патентной документации. Библ. 47 назв. М. Ф.

68.5.332. Развитие и организация отдела информации на крупном промышленном предприятии. Rein Hans Günther. Entwicklung und Organisation einer Literaturabteilung der Grossindustrie. «Nachr. Dokum.», 1967, 18, № 6, 242—244 (нем.)

Рассматриваются принципиальные вопросы организации службы информации на предприятиях тяжелой промышленности ФРГ. Особое внимание уделяется роли и месту специальной библиотеки предприятия в информационном обслуживании. К. В.

GREAT BRITAIN

68.1.220. *The Government's plans in the field of scientific information. (Abstr. of a paper).*— Hookway, H. T. «Inst. Biol. J.», 1967, *14*, No. 1, 21—23. (In English).

The Office for Scientific and Technical Information (Great Britain) was formed in April 1965 with an object to stimulate and coordinate research and development on new techniques and systems; to improve existing information services and to experiment with new ones; to assess the need for information scientists; to establish a comprehensive, efficient and flexible library network for science and technology; and to ensure the participation of United Kingdom in international information activities. K. B.

68.1.220. Планы правительства в области научной информации. Hookway H. T. The government's plans in field of scientific information. /Abstr. of a paper/. «Inst. Biol. J.», 1967, 14, № 1, 21—23 (англ.)

Бюро научно-технической информации (Великобритания) было организовано в апреле 1965 г. Основные задачи его состоят в поощрении и координации исследований и разработок, касающихся новых технических средств и систем, в улучшении работы существующих информационных служб и в проведении экспериментов со вновь созданными, в определении потребности в специалистах-информаторах, в создании эффективной и гибкой сети научно-технических библиотек, а также в обеспечении участия Великобритании в международной информационной деятельности. К. В.

70.3.320. *The role of the Office for Scientific and* [illegible] *Information (OSTI).*— May, D. H. «Aslib Proc.», 1969, 27, No. 10, 397—399 (In English).

[illegible] primary tasks of specialized information centers and the expediency of new ones are discussed. R. S.

[illegible]261. *Progress with data centres.*— Fairbairn, R. E. «Aslib. Proc.», 1968, 20, No 11, 496—501. (In English).

[illegible] 1966—established Committee on Data for Science [illegible] Technology (CODATA) is responsible for dissemination information of interest to science and technology, [illegible] contacts between specialists in the various fields of science by way of meetings and delegations, and [illegible]. The Committee deals with data processing in [illegible]graphy, thermodynamic properties of gases, etc. It [illegible] to prepare an International Compendium of [illegible] data projects and a weekly newsletter to co[illegible] most important data. The feasibility of setting up [illegible]es for scientific and technical information is [illegible] description is provided of the joint activities by [illegible] National Committee on Data for Science and [illegible] and the Office for Scientific and Technical [illegible]. N. Veremchuck

[illegible] *OSTI and information science in the United* [illegible]— Edwards, A. P. J. «Proc. 2nd Conf. Jesus [illegible], 1966» London, Inst. Inform. Scientists, [illegible] Discuss., 83—84. (In English).

[illegible] Office for Scientific and Technical Information was [illegible] the United Kingdom in April, 1965. Its present [illegible] are as follows: to coordinate and conduct re[illegible] scientific and technical information; to promo[illegible]mentation techniques and equipment; to admi[illegible] National Lending Library for Science and Te[illegible] to assist in the development of a network of [illegible] libraries and information centers; to encourage [illegible] use of information agencies and services rende[illegible] by them; to train information workers; to represent [illegible] of international information agencies, meetings, [illegible], etc. 2 refs. B. Goldberg

[illegible] *The Ministry of Technology and technical in*[illegible]— Giles, C. G. «Aslib Proc.», 1969, 21, [illegible] (In English).

[illegible] British Ministry of Technology is a major user and [illegible] of scientific and technical information. Government-supported research and development organizations [illegible] as branch information centres use the Ministry as [illegible] information media. The Ministry has established a [illegible] service for assembling, abstracting and publishing reports on a greater part of research and development [illegible] carried out in the country. The Reports Centre [illegible] the bimonthly journal «Research and Development Abstracts». Annually the Ministry publishes about 1300 articles in technical periodicals and publishes the «New Technology» monthly bulletin disseminated among sixty thousand recepients in the country. Another publication is the «Techlink» announcement information service for industry. Its main idea is to supply information about new ideas, processes, equipment and materials to those who can make use of such in industry. A great variety of other publications is also offered, including the «Technical Services for Industry» series which catalogues over 120 different information sources. L. Popilova

70.3.320(3048). Роль Управления научной и технической информации в развитии сети специализированных информационных центров Великобритании. May D. H. The role of the Office for Scientific and Technical Information (OS—TI). «Aslib Proc.», 1969, 21, № 10, 397—399 (англ.)

Рассматриваются основные задачи специализированных информационных центров и целесообразность создания новых специализированных информационных центров. (Подробный реферат см. в ЭИ «Теория и практика научной информации», 1970, № 1, 3). Р. С.

69.5.261. [Деятельность центров по научно-техническим данным.] Fairbairn R. E. Progress with data centres. «Aslib. Proc.», 1968, 20, № 11, 496—501 (англ.)

В 1966 г. был создан Комитет по научно-техническим данным (CODATA), на который возложена задача по распространению данных, налаживанию связей между специалистами различных отраслей науки путем организации совещаний и обмена делегациями, а также решению вопросов финансирования. Комитет занимается обработкой данных в области кристаллографии, термодинамических свойств газов и др. Комитет разрабатывает проекты руководства по обработке цифровых данных. Предполагается выпуск еженедельных обзоров по обработке наиболее важных данных. Изучается возможность развития международных центров по научно-техническим данным. Описывается совместная деятельность Бюро научной и технической информации Великобритании и Комитета по научно-техническим данным.

Н. Веремчук

68.8.278. Бюро научной и технической информации и информационная деятельность в Великобритании. Edwards A. P. J. OSTI and information science in the United Kingdom. «Proc. 2nd. Conf. Jesus Coll., Oxford, 1966» London, Inst. Inform. Scientists, 1968, 78—83. Discuss., 83—84 (англ.)

Бюро научной и технической информации Великобритании, созданное в апреле 1965 г., осуществляет следующие функции: координирует и проводит исследования по теории и практике научной и технической информации; работает над созданием новых технических средств; руководит Национальной научно-технической библиотекой; оказывает содействие в развитии сети специальных библиотек и информационных центров; пропагандирует информационные службы и оказываемые ими услуги, готовит кадры специалистов; представляет Великобританию в международных информационных органах, на совещаниях, конференциях и др. Библ. 2 назв.

Б. Гольдберг

70.3.321(Р—3049). Министерство технологии и информационная деятельность. Giles C. G. The Ministry of Technology and techical information. «Aslib Proc.», 1969, 21, № 10, 391—396 (англ.)

Министерство технологии Великобритании является крупнейшим потребителем и поставщиком научно-технической информации. Научно-исследовательские организации, финансируемые правительством, через Министерство выполняют функции отраслевых информационных центров. При нем создана служба по сбору, реферированию и изданию отчетов о большинстве выполняемых в стране научно-исследовательских работ, которая издает раз в 2 месяца РЖ «Research and Development Abstracts». Министерство публикует ежегодно около 1300 статей в технической периодике, издает ежемесячный бюллетень «New Technology», распространяемый среди 60 тыс. подписчиков внутри страны, а также ЭИ «Techlink» для промышленности. Основной задачей этого издания является сообщение сведений о новинках в технологии, оборудовании и материалах, представляющих интерес для непосредственного использования в промышленности. Выпускается также большое число других изданий, среди которых серия «Technical Services for Industry», реферирующая свыше 120 информационных изданий. Л. Попилова

70.3.322. *The National Reference Library of Science and Invention.*— Hill. M. W. «Libr. World», 1969, *71*, No. 832, 99—105. (In English).

The major task of the British National Reference Library of Science and Invention consists in reference service and research in invention, patenting and some other fields. The Library is split into two units, each with its own collections and reading hall. It carries on large-scale reference, abstracting and research work, produces indexes, collections of patent specifications, guides to individual collections, notes to readers, etc. The Library runs one-day introductory courses for instruction in search tools. The Library acquisition interests lie primarily in the fields of natural sciences, engineering and technology, the selection criterion being the practical usefulness of the source. Patent literature is kept in the reading rooms, the rest is stored in deposits. L. Popilova

69.5.262. *Information activity of the Metal Box Company, Ltd.*— Feldman, Marian. Dzialalność informacyjna w koncernie The Metal Box Company Ltd. w W. Brytanii. «Aktual. probl. inform. i dokum.», 1968, *13*, No. 4, 22—26. (In Polish; Russian, French and English summaries).

The activities of three specialized information services within the Metal Box Company Ltd (Great Britain) are described, with emphasis on the scientific and technical information service under the Research and Technical Progress Department. 4 refs. Summary

УДК 027.5(410)

70.3.322(Р—3025). Национальная справочная научно-патентная библиотека. Hill M. W. The National Reference Library of Science and Invention. «Libr. World», 1969, 71, № 832, 99—105 (англ.)

Основной задачей Национальной справочной научно-патентной библиотеки Великобритании является выдача справок и ведение исследований в области изобретательства, патентного дела и ряда научных дисциплин. Библиотека имеет два отделения со своими фондами и читальными залами, ведет обширную справочную, реферативную и научную работу, выпускает указатели, сборники описаний патентов, справочные пособия по фондам, бюллетень заметок читателей и др. В библиотеке проводятся однодневные семинары по методике пользования фондами. Комплектование фонда ведется в основном по естественным наукам, инженерному делу и технологии, причем принципом комплектования является практическая полезность материала. Патентная литература находится в читальных залах, остальная в хранилищах. Л. Попилова

69.5.262. Информационная деятельность фирмы The Metal Box Company Ltd. Feldman Marian. Dzialalność informacyjna w koncernie The Metal Box Company Ltd. w W. Brytanii. «Aktual. probl. inform. i dokum.», 1968, 13, № 4, 22—26 (польск.; рез. русск., франц., англ.)

Описывается деятельность трех специализированных служб информации фирмы The Metal Box Company Ltd. (Великобритания). Особое внимание уделено работе службы научно-технической информации при Отделе исследований и технического прогресса. Библ. 4 назв.

ITALY

69.3.230. *Scientific information in Italy.*— Jirů, Jaromira. Vědecké informace v Italii. «Metodika a techn. inform.», 1968, *10*, No. 6, 84—87. (In Czech).

The structure and functions of the National Council for Scientific Research and the activities of its three subordinate information centres (the National Scientific Documentation Centre, Library and Publishing House) are considered. Some data are cited from the history of the National Scientific Documentation Centre (from 1912). Twelve years ago the Centre gave up documentation files as inefficient. Information retrieval is based on reference publications and all types of indexes.

70.2.282. *The programme for the development of information services at industrial experimentation stations.*— Bisogno, Paolo. Programma di sviluppo dei servizi di documentazione ed informazione delle stazioni sperimentali per l'industria. «Quad.» Ricerca scient.», 1969, No. 54, 229 p., ill. (In Italian).

The article describes the activities of information services set up at experimentation stations serving Italian industrial enterprises. Their structure, major tasks, cooperation with industries and development prospects are considered. Various aspects concerning application of computers and other equipment for information processing, storage and production are discussed; routines of document reproduction and the chart of the information cycle are presented. G. D.

70.2.283. *Information. Italian enterprises:*— Buzzelli, G. E. Metodologia della ricerca documentaria. «Organizz. scient.», 1969, *19*, No. 3, 107—123. (In Italian).

Enterprises having no information services of their own face considerable difficulties in retrieving and processing information. Listed are national centres co-ordinating scientific and technical research, the major reference centres of 28 countries, national institutes of scientific and technical information, national normalization and patent information centres. Information methods adopted by these centres are mentioned. 57 refs. G. D.

69.3.230. Научная информация в Италии. Jirů Jaromira. Vědecké informace v Itálii. «Metodika a techn. inform.», 1968, 10, № 6, 84—87 (чешск.)

Кратко излагаются структура и функции Национального совета по научным исследованиям и рассматривается деятельность трех информационных центров, существующих в его рамках, — Национального центра научной документации, библиотеки и издательства Национального совета по научным исследованиям. Приводятся некоторые сведения из истории Национального центра научной документации (начиная с 1912 г.). Отмечается отсутствие в центре документационных картотек, от ведения которых ввиду их неэффективности отказались 12 лет назад. Поиск информации осуществляется по реферативным изданиям и всякого рода указателям. Юнко

70.2.282. Программа развития информационных служб экспериментальных станций промышленности. Bisogno Paolo. Programma di sviluppo dei servizi di documentazione ed informazione delle szationi sperimentali per l'industria. «Quard. «Ricerca scient.», 1969, № 54, 229 pp., ill. (итал.)

Описывается деятельность информационных служб, образованных при экспериментальных станциях, обслуживающих промышленные предприятия Италии. Приводится структура этих служб, основные задачи, связи с предприятиями и перспективы развития. Рассматриваются вопросы применения ЭВМ и другого оборудования для обработки, хранения и выдачи информации, описывается порядок репродуцирования документов и схема ИРИ. Г. Д.

70.2.283. [Информационная деятельность на предприятиях Италии]. Buzzelli G. E. Metodologia della ricerca documentaria. «Organizz. scient.», 1969, 19, № 3, 107—123 (итал.)

Указывается, что предприятия, не имеющие собственных информационных служб испытывают значительные затруднения при поиске и обработке необходимой информации. Перечисляются национальные центры по координации научно-исследовательских работ, основные справочно-библиографические центры 28 стран, национальные институты научно-технической информации, национальные центры по нормализации и патентной информации. Приводятся способы информирования предприятий этими центрами. Библ. 57. Г. Д.

69.10.264. *Analysis of information needs.*— Analyse des demandes de documentation. «Colloq. internat. inform. docum. chemins fer. Paris, 1968». Bruxelles, s. a., 49—50. (In French).

A study of information needs undertaken by the Railway Information Centre of Italy showed that a greater portion of all requests concerned retrieval of materials for limited use. Language-wise distributions of requests is the following: English nets 35% of cases, German — 24% and French — 18%. Subject-wise classification is as follows: power engineering and railway service 17%, rolling stock 20%, permanent structures 19%, and maintenance 12%. E. P.

69.10.263. *Some results of a questionnaire survey of the Information Centre of Italian State Railways.*— Quelques résultats des enquêtes effectuées auprès des utilizateurs du Centre de documentation des Chemins de fer Italiens de l'Etat (F. S.). «Colloq. internat. inform. docum. chemins fer. Paris, 1968». Bruxelles, s. a., 46—48. (In French).

Analysis of replies to a questionnaire spread by the Information Centre of the Italian Railway Service revealed the following major requirements: 1. specially-oriented materials should be selected with greater care; 2. materials to requests should reach the reader quicker; 3. current-awareness information and latest original literature should take less time for their circulation. E. P.

UDC 002.5:656.2(45)

69.10.265. Анализ потребностей в информации.— Analyse des demandes de documentation. «Colloq. internat. inform. docum. chemins fer. Paris, 1968». Bruxelles, s. a., 49—50 (франц.)

Анализ потребностей в информации, проведенный информационным центром в области железнодорожного транспорта Италии среди потребителей информации показал, что большинство требований относилось к поиску материала, предназначенного для пользования учреждений и не имеющего широкого распространения. К литературе на английском языке относилось 35% запросов, на немецком — 24%, на французском — 18%. По темам запросы распределялись следующим образом: по энергетике и тяге 17%, по подвижному составу 20%, по фундаментальным сооружениям 19%, по эксплуатации 12%.

69.10.264. Некоторые результаты анкетного опроса, проведенного информационным центром государственной железнодорожной службы Италии.— Quelques résultats des enquêtes effectuées auprès des utilisateurs du centre de domumentation des chemins de fer italiens de l'etat (F. S.). «Colloq. internat. inform. docum. chemins fer Paris, 1968». Bruxelles, s. a., 46—48 (франц.)

В результате изучения ответов на анкету, разосланную информационным центром железнодорожной службы Италии выявлены основные требования потребителей, которые заключаются в более тщательном отборе материалов по узким специальностям, в сокращении сроков выполнения заказов на высылку материалов по разовым запросам, в ускорении распространения сигнальной информации и оригинальной новейшей литературы. Е. П.

NETHERLANDS

68.8.274. *Information science and services in Holland.* — Haringsma, B. M. «Proc. 2nd Conf. Jesus Coll., Oxford, 1966». London, Inst. Inform. Scientists, 1968, 26—30. (In English).

The information agencies of the Netherlands are called upon to promote the dissemination of information and training of information workers; to improve cooperation in the field of information activities via information centres; to stimulate research in information science; and to insist on more informative R and D reports. These tasks are to be mainly fulfilled by the Netherlands Institute for Documentation and Filing (NIDER) which fosters cooperation between individual information services, offers a bibliographical information service based on national and international sources; and compiles a complete bibliography of Dutch literature in science and technology. NIDER and the Netherlands Library Association have jointly organized part-time courses in documentation and library science. Considerable support to the Institute is given by the first Dutch school for library science and documentation set up in Amsterdam in 1964, which provides a full-time training course. N. Veremchuk

68.8.274. [Информационная деятельность в Нидерландах]. Haringsma B. M., Miss. Information science and services in Holland. «Proc. 2nd. Conf. Jesus Coll., Oxford, 1966». London, Inst. Inform. Scientists, 1968, 26—20 (англ.)

Указывается, что информационные организации Нидерландов призваны содействовать распространению информационных знаний и подготовке информационных кадров; улучшать сотрудничество в области информации через центры, службы и т. д.; поощрять научные исследования в области информации; добиваться более полного охвата информационных материалов при составлении отчетов. Основную роль в выполнении этих задач играет NIDER, который налаживает сотрудничество между отдельными информационными службами, осуществляет информационно-библиографическое обслуживание на базе национальных и международных источников, составляет полное библиографическое описание литературы Нидерландов по науке и технике. Совместно с Ассоциацией библиотекарей Нидерландов Институт организовал курсы по документации и библиотековедению. Большую помощь в подготовке информационных кадров оказывает ему первая школа библиотековедения и документации (создана в 1964 г. в Амстердаме), в которой преподавание ведется с отрывом и без отрыва от производства. Н. Веремчук

PORTUGAL

69.5.268. *Organization of information in Portugal.* — Silva, Serra H. Informaçao para a indústria-sua coordenaçao. «Ind. portug.», 1968, *41*, No. 490, 713—717. (In Portuguese).

A single national documentation and information centre of Portugal is necessary to provide for timely and continuous supply of scientific, technical and economic information to industrial enterprises under the Organization of Cooperation and Economic Development. The following model is proposed for the organization: a Coordination and Planning Agency with subordinate groups for planning, inventory, dissemination, information, centralization, etc. The central agency should be augmented by a secretariat which will be responsible for international contacts, information dissemination and automatic processing, general catalogues and duplication, technical aspects of publication. The secretariat may also be vested with the control of branch information services in the state-run official agencies. The centre must have a group of diversely specialized documentalists to process data coming from the branch services and from abroad. This reform of the information pattern will involve a detailed account of the available information sources, close co-operation with respective offices, industrial enterprises and educational establishments. E. Parshina

69.5.269. *The pattern of information service at a large industrial enterprise.* — Barros, Henriques Maria Odete de. O serviço de informação numa grande empresa fabril. «Ind. portug.», 1968, *41*, No. 490, 719—723. (In Portuguese).

This is a brief development review of Portuguese information services and the activities of the Documentation and Information Centre of the Companhia União Fabril which includes 55 enterprises. This centre was set up in Lisbon in 1960, and at present has the following structure. Directorate; information service with technical and economic information units; secretarial office and publishing group, classification, documentation and abstracting group; microfiche and duplication group; library contacts group. Periodicals and other publications are listed. Primary information units are urged for industrial enterprises served by the centre. 2 ills. E. Parshina

69.5.268. [Организация информационной деятельности в Португалии]. Silva Serra H. Informaçao para a industria-sua coordenação. «Ind. portug.», 1968, 41, № 490, 713—717 (порт.)

Для своевременного и непрерывного снабжения промышленных предприятий, входящих в Организацию кооперирования и экономического развития научно-технической и экономической информацией, необходимо создать единый национальный центр документации и информации Португалии. Предлагается следующая модель организации: Орган координирования и планирования, которому подчиняются группы планирования, инвентаризации, распространения, информационной документации, централизации и др. При центральном органе следует создать секретариат, в ведении которого будут: группы по международным связям, по распространению и автоматической обработке информации, группа, ведающая общими каталогами и репродуцированием, группа, ведающая техническим издательством. Секретариату могут быть также подчинены отраслевые службы информации при государственных органах. В Центре должна быть группа специалистов-документалистов различного профиля, которые будут обрабатывать данные, поступающие из отраслевых служб и из-за рубежа. Предполагается, что подобная схема может быть создана также в Анголе и в Мозамбике. В целях перестройки схемы информации необходимо предварительно провести полный учет имеющихся источников информации, установить тесную связь с соответствующими учреждениями, промышленными предприятиями и учебными заведениями. Е. Паршина

69.5.269. Об организации службы информации на крупном промышленном предприятии. Barros Henriques Maria Odete de. O serviço de informação numa grande empresa fabril. «Ind. portug.», 1968, 41, № 490, 719—723 (порт.)

Дан краткий обзор развития информационных служб Португалии и деятельности Центра документации и информации промышленной компании Companhia União Fabril, в состав которой входят 55 предприятий. Этот центр был создан в Лиссабоне в 1960 г. и в настоящее время имеет следующую схему организации: дирекция, информационная служба с отделениями технической и экономической информации, секретариат и издательская группа, группа классификации, документации, реферирования, служба МФ и репродуцирования, группа связи с библиотеками. Приводится перечень периодических и непериодических изданий. Рекомендуется создавать на промышленных предприятиях, обслуживаемых центром, первичные информационные органы. Илл. 2.

SCANDINAVIA

68.4.319. *«Infotex» — a joint Scandinavian project for information in textile industries.*— Molvig, Tove Aas-Wang. «Infotex». De nordiske tekstilindustriers samarbeidsprosjekt om informasjonsproblemer. «Tekn. ukebl.», 1967, *114*, No. 42, 767—768 (In Norwegian).

The growing amount of information and the need for it call for joint efforts of information services at textile research institutes of the four Scandinavian countries. At present, work is underway for the preparation of a textile thesaurus based on the thesaurus compiled at Massachusetts Institute of Technology and translated into the four Scandinavian languages. The new thesaurus is expected to contain 8 thou terms, which will be augmented by general technical terms. Requirements to the future pattern of textile technical information are specified; a joint programme for a survey of the state-of-the-art in each country is outlined. The programme consists of three phases: studying and determining the lines along which cooperation between Scandinavian research institutes is to be effected; finding out problems of mutual interest, and mobilization of available resources. 4 refs. M. Tapelzon

68.4.319. Infotex — проект совместной работы текстильных отраслей промышленности скандинавских стран в области информации. Molvig Tove Aas-Wang. «Infotex». De nordiske tekstilindustriers samarbeidsprosjekt om informasjonsproblemer. «Tekn. ukebl.», 1967, 114, № 42, 767—768 (норв.)

Большой объем информации и рост потребности в ней делают желательным объединение усилий информационных служб при текстильных научно-исследовательских институтах четырех скандинавских стран. В настоящее время ведется составление тезауруса по текстильному производству на базе тезауруса, подготовленного в Массачусетском технологическом институте и переведенного на 4 скандинавских языка. Предполагаемый объем нового тезауруса 8 тыс. терминов, к которым будут добавлены необходимые общетехнические термины. Указаны требования к постановке технической информации в области текстильного производства, намечена совместная программа по изучению ее постановки в скандинавских странах. Программа состоит из 3 этапов: изучения и установления путей сотрудничества скандинавских научно-исследовательских институтов, определения вопросов, представляющих общий интерес, и мобилизации имеющихся ресурсов. Библ. 4 назв. М. Тапельзон

68.6.304. *Scandoc—a documentation centre.*— Gram, Nils L. Scandos—den skandinaviske dokumentasjonssentral i USA. «Tekn. ukebl.», 1967, *114*, No. 42, 771—772. (In Norwegian).

The Scandos documentation centre, set up in 1960, deals with the dissemination in the Scandinavian countries of USA—published reports of private companies and governmental agencies, as well as proceedings of conferences. The tasks of the Centre are cited. Company and governmental reports and proceedings of conferences included in various publications are evaluated. Peculiarities in handling both types of documents are mentioned.

68.5.343. *Organization of information at an enterprise.*— Collin, Torborg. Informasjonsformidling innen bedrifter. «Tekn. ukebl.», 1967, *114*, No. 42, 753—755. (In Norwegian).

Publications dealing with organization of information at Scandinavian enterprises are listed. Data are cited on the enterprises and information users covered by the survey. The results are analysed as regards the forms of information used. A summary of proposals on better information service is given. 5 refs. M. T.

68.6.305. *Information in shipbuilding.*— Kristoffersen, Tore. Bransjeinformasjon—dokumentasjon eller andre media? «Tekn. ukebl.», 1967, *114*, No. 42, 756—758. (In Norwegian)

The tasks facing the information service of the Norwegian Shipbuilding Research Institute are listed. Two types of information service are deemed necessary: general and special (to users' requests). General information will involve both, small express publications and more complete ones. Much attention is paid to direct exchange of publications between Norwegian firms. Information is disseminated both through printed publications and through personal contacts. M. T.

70.2.250. *Internal information at Höganäs AB.* — Wickman, Eva. Intern information vid Höganäs AB. «Tidskr. dokum.», 1969, 25, No 4, 64—66. (In Swedish, English summary).

The activities since 1932 of the library at Höganäs AB Company (Sweden) are described. From 1968 the librarian also acts as editor of the staff magazine and secretary of the joint industrial council. After summary

68.6.304. [Документационный центр *Scandoc*]. Gram Nils L. Scandoc — den skandinaviske dokumentasjonssentral i USA. «Tekn. ukebl.», 1967, 114, № 42, 771—772 (норв.)

Документационный центр Scandoc, организованный в 1960 г., занимается распространением в Скандинавских странах публикуемых в США отчетов фирм и правительственных организаций, а также материалов конференций. Указаны задачи, решаемые центром. Дана характеристика отчетов, выпускаемых фирмами и правительственными организациями США, и материалов конференций, публикуемых в различных изданиях. Отмечены особенности обработки документации обоих видов.

68.5.343. Организация информационной работы на предприятиях. Collin Torborg. Informasjonsformidling innen bedrifter. «Tekn. ukebl.», 1967, 114, № 42, 753—755 (норв.)

Перечислены публикации, посвященные организации информационной работы на предприятиях Скандинавских стран. Приведены данные о предприятиях и о потребителях информации, охваченных обследованием. Рассмотрены результаты опроса в отношении форм используемой информации. Дан обзор пожеланий по улучшению информационной работы. Библ. 5. М. Т

68.6.365. [Постановка информации в судостроительной промышленности]. Kristoffersen Tore. Bransjeinformasjon — dokumentasjon eller andre media? «Tekn. ukebl.», 1967, 114, № 42, 756—758 (норв.)

Перечислены задачи, стоящие перед информационной службой Научно-исследовательского судостроительного института Норвегии. Отмечена необходимость двух видов информирования: общего и специального (по запросам потребителей). В области общего информирования необходим выпуск как экспресс-изданий небольшого объема, так и более полных публикаций. Значительное внимание служба уделяет обмену информацией непосредственно между фирмами Норвегии. Распространение информации происходит как через печатные издания, так и в процессе общения работников фирм. М. Т.

70.2.250 (Р-1077). Внутренняя информация фирмы Höganäs. Wickman Eva. Intern information vid Höganäs AB. «Tidskr. dokum.», 1969, 25, № 4, 64—66 (шведск., рез. англ.)

Описывается деятельность библиотеки фирмы Höganäs (Швеция) с 1932 г. С 1968 г. библиотекарь стал совмещать функции редактора журнала и секретаря объединенного промышленного совета. По резюме

SPAIN

69.6.217. *Information in Spain.*— Maury, R., Bolivar, Miguel. Panorama de la información cientifica y tecnica. «Electron. y fis. apl.», 1968, *11*, No. 43. (In Spanish; English and French summaries).

The history and state-of-the-art in information in Spain are outlined. The 1953-founded National Scientific and Technical Information Centre in Madrid is described, which provides advisory and library services, and also includes departments for translations, information on foreign scientific and technological progress, and for duplication. The periodicals published by the Centre are listed. The activities of information centers for physics are summarized. In some fields similar centers have not been established yet. Some facts are given on modern information processing techniques, classification systems and information carriers for manual and automatic retrieval. 4 ills., 10 refs.

69.6.217. [Информационная деятельность в Испании]. Maury R. - Bolivar Miguel. Panorama de la información cientifica y tecnica. «Electrón. y fis. apl.», 1968, 11, № 43, 241—253 (исп.; рез. франц., англ.)

Дается обзор развития и современного состояния информационной деятельности в Испании. Приводятся основные данные о национальном центре научно-технической информации в Мадриде (создан в 1953 г.), который имеет консультационную, библиотечную службы, а также отделы переводов, информации о развитии науки и техники за границей и репродуцирования. Перечислены периодические издания центра. Кратко охарактеризована деятельность центров научно-технической информации по физике. Отмечается, что в ряде отраслей еще не организованы информационные центры. Приведены некоторые сведения о современной технике обработки информации, о классификационных системах и о видах носителей информации для ручного и автоматического поиска. Илл. 4. Библ. 10 назв.

Е. Паршина

ASIA

JAPAN

68.7.301 B. *Science information in Japan. Second and revised edition. Tokyo.* Japan Docum. Soc., Nipdok, 1967, 192 pp. (In English).

The following problems are considered: organization of scientific and technical information in Japan, dissemination and utilization of scientific information; primary and secondary sources; facilities; training of staff, etc.

68.10.339. *Scientific and technical information in Japan.*— Старобинская Н. Г. Организация научно-технической информации в Японии. «Техн. биб-ки СССР», 1968, вып. 3(65), 52—55. (In Russian).

The work of the National Diet Library, Scientific Council and Japan Information Centre for Science and Technology is described. The Centre's publications are listed.

68.11.376. *The system of scientific and technical information in Japan. Part 1.*— Havlíček, Karel. Vědeckotechnické informace v Japonsku. «Techn. knihovna», 1968, *12*, No. 4, 107—119. (In Czech).

To coordinate research and to organize a scientific and technical information system, a Scientific Council was set up in Japan in 1949. In addition, the country has over 1 thou scientific and technical societies on a regional basis. In 1967, there appeared about 9,800 periodicals, including 1,600 journals on science. 3 tabs.

68.11.377. *The system of scientific and technical information in Japan. Part 2.*— Havlíček, Karel. Vědeckotechnické informace v Japonsku. Č. II. «Techn. knihovna», 1968, *12*, No. 5, 140—149. (In Czech).

Coordination of national information activities is the responsibility of the Japanese Centre of Scientific and Technical Information. In addition, there exist information centres for nuclear energy, oceanography, Antarctic studies, etc. The National Diet Library is the country's largest one. Japan also has over 600 university libraries and over 100 libraries at industrial enterprises. The following Abstracts Journal series are published: medicine, mechanical engineering, mining, biology, law, etc. The staff are trained at short and long-term courses. 2 tabs.; 5 refs. For Part 1 see «Abstract Journal: Scientific and Technical Information», 68.11.376. N. Michněvič (CSSR)

69.2.213. *National information system and the policy of JICST.*— Hamada, Siganori. «Joho kanri, Inform. and Docum.», 1968, *11*, No. 1, 4—7. (In Japanese).

Some data are cited on the activity of the Japanese Information Centre for Science and Technology in 1968.

70.2.285. *JICST today and its policy for '69.*— Khamada, Shigenori. «Zyoho kanri, Inform. and Docum.», 1969, *12*, No. 2, 66—69. (In Japanese).

The Centre's activities over 1968—1969 are analysed. Computerized publications are expected in future; more Japanese and foreign periodicals will be handled; close co-operation will be maintained with various interested offices. An IRS is being developed to achieve higher efficiency of information. Stress is placed on the education of information personnel. M. A.

69.10.267. *Documentation activity in Mitsui Toatsu Chemicals, Inc.*— Kurihara, Shizuo. «Dokumentêsyon kenkyû», 1969, *19*, No. 4, 110—115. (In Japanese, English summary).

This is a description of the activity of the documentation section of the Central Research Laboratory of Mitsui Toatsu Chemicals, Inc., which covers the following fields: collection, processing and storage of patents and other technical documents arriving at the Laboratory. H. A.

68.7.301 К. Научно-техническая информация в Японии. Science information in Japan. Second and revised edition. Tokyo, Japan Docum. Soc., Nipdok, 1967, 192 pp. (англ.)

Рассматриваются вопросы организации научно-технической информации в Японии; распространение и использование научной информации; первичные и вторичные источники; технические средства; подготовка кадров и др. Н. А.

68.10.339. Организация научно-технической информации в Японии. Старобинская Н. Г. «Техн. биб-ки СССР», 1968, вып. 3(65), 52—55

Описывается деятельность Национальной парламентской библиотеки, Научного совета и Информационного центра по науке и технике Японии. Перечислены издания Центра. Д. С.

68.11.376. Система научно-технической информации в Японии. ч. I. Havlíček Karel. Vědeckotechnické informace v Japonsku. «Techn. knihovna», 1968, 12, № 4, 107—119 (чешск.)

С целью координации научно-исследовательских работ и организации системы научно-технической информации в 1949г. в Японии был создан научный совет. Помимо него, в стране существует более 1 тыс. научно-технических обществ, имеющих региональный характер. В 1967 г. издавалось около 9800 периодических изданий, в том числе 1600 научных журналов. Табл. 3.

68.11.377. Система научно-технической информации в Японии, ч. II. Havlíček Karel. Vědeckotechnické informace v Japonsku. Č. II. «Techn. knihovna», 1968, 12, № 5, 140—149 (чешск.)

Координирующим органом в области информационной деятельности в стране является Центр научной и технической информации Японии. Кроме того, имеются информационные центры в области атомной энергии, океанографии, антарктических исследований и др. Крупнейшей библиотекой Японии является Национальная парламентская библиотека. В стране существует также свыше 600 университетских и более 100 заводских библиотек. Издаются следующие серии РЖ: по медицине, машиностроению, горному делу, биологии, праву и др. Подготовка кадров проводится на долгосрочных и краткосрочных курсах. Табл. 2. Библ. 5 назв. Ч. I см. РЖНТИ,68 11.376. N. Michněvič (ЧССР)

69.2.213. Национальная информационная система и деятельность Центра научной и технической информации Японии. Хамада Сигэнори. National information system and the policy of JICST. «Дзёхо канри. Inform. and Docum.», 1968, 11, № 1, 4—7 (японск.)

Приводятся некоторые данные о деятельности Центра научной и технической информации Японии в 1968 г.

70.2.285(Р—3009). Деятельность Центра научной и технической информации Японии. Хамада Сигэнори. JICST today and its policy for 69. «Дзёхо канри, Zyoho kanri, Inform. and Docum.», 1969, 12, № 2, 66—69 (японск.)

Характеризуется деятельность Центра за 1968—1969 гг. Предполагается осуществлять подготовку изданий к печати с помощью ЭВМ. Намечается увеличение обрабатываемых периодических изданий, выпускаемых в Японии и за рубежом, установление тесных связей с заинтересованными учреждениями. Разрабатывается ИПС для повышения эффективности информационного обслуживания. Большое внимание уделяется подготовке информационных кадров. М. А.

69.10.268. Информационная деятельность фирмы Mitsui Toatsu Chemicals. Курихара Сидзуо. Documentation activity in Mitsui Toatsu chemicals. Inc. «Докумэнтэсён кэнкю, Dokumentêsyon kenkyû», 1969, 19, № 4, 110—115 (японск., рез. англ.)

Описывается деятельность информационного сектора при центральной научно-исследовательской лаборатории фирмы Mitsui Toatsu Chemicals, в функции которого входит: сбор, обработка и хранение патентной и технической документации, поступающей в центральную научно-исследовательскую лабораторию. М. А.

NORTH AMERICA

CANADA

[illegible] 1.234. *Falconbridge information centre.*— Collett Stewart. «Mining Canada», 1967, May, 41—42, 44. (In English).

[illegible] information centre of Falconbridge Nickel Mines, Ltd. (Canada) was established in 1962—1963. The Centre's [illegible] library contains over 2500 books, and receives [illegible] about 160 journals and other periodicals. The [illegible] offers also a microfiche collection and reading-[illegible] facilities. The Centre was the first in Canada to [illegible], with the assistance of IBM, the monthly publication of the KWIC index and selective dissemination of information inside the company. By now, about 6 thousand [illegible] have been processed (each, as a rule, described [illegible] more than 5 keywords). Bi-annual reprints of the entire Index Section are produced; author and patent [illegible] are included in immediate future plans. 3 ills.

68.1.234. Информационный центр фирмы Falconbridge Nickel Ltd. Collett Stewart. Falconbridge information centre. «Mining Canada», 1967, May, 41—42, 44 (англ.)

Информационный центр фирмы Falconbridge Nickel Ltd (Канада) был создан в 1962—1963 гг. СИФ его насчитывает примерно 2500 книг, ежегодно выписывается около 160 журналов и других периодических изданий, имеется фонд микрофильмов и соответствующая аппаратура для копирования — и чтения и небольшой читальный зал. Центр первым в Канаде организовал при помощи специалистов фирмы IBM ежемесячное издание указателя KWIC и избирательное распространение информации внутри фирмы. В настоящее время обработано около 6 тыс. документов (каждому соответствует примерно 5 дескрипторов). Два раза в год выходят сводные тома указателя, а также организовано издание авторского и патентного указателей. Илл. 3.

USA

[illegible] *The organization of information—how it is [illegible] the U.S.A.*— Adkinson, B. M. «Advancement [illegible] 23, No. 118, 619—624. (In English).

[illegible] structure of the information network in the USA [illegible]. Organizations and offices engaged in ex[illegible] of scientific information are listed. Each of the [illegible] components of this network is characterized: [illegible] professional societies, ([illegible]) research organizations, and [illegible] publishing houses of universities and commercial [illegible] types of information services offered by these orga[illegible] are defined, prospects of information service in [illegible] are outlined. O. V.

[illegible] 361. *Planning for national information net[illegible].*— Knox, William T. «2nd Nat. Sympos. Engng [illegible] Coordinat. Engng Inform. Syst. New York, N.Y., 1965». New York, N. Y., Engrs Joint Council, 1966, 5—8. [illegible] 48—54. (In English).

The structure of the Federal Committee on Scientific and Technical Information (USA), its main objectives and activities are described. The Governmental programme for the establishment of a national scientific and technical information network is discussed. The Committee is active in coordinating the work of Federal and private-owned information services and in promoting extensive use of [illegible] data communication systems. National libraries are to be organized to cover specialized subject-area literature. Beside such document-oriented agencies of a traditional type, a network of information-oriented centres should be developed which will be concerned exclusively with abstracting, analysis and evaluation of information, development of indexing methods and retrieval systems. It is emphasized that the establishment of an effective national computer-based information system is to a great part hindered by inadequate funding and lack of trained staff.

[illegible] 8.233. *The situation and prospects of the information industry in the U. S. A.*— Hirayama, Ryozaburo. «Zyoho kanri. Inform. and Docum.», 1968, *11*, No. 9, 503—507. (In Japanese).

This is a report of a tour of the USA made by a group of Japanese experts to get acquainted with the state-of-the-art in the «information industry» there. M. A.

68.2.313. Организация информационной службы в США. Adkinson B. M. The organization of information — how it is done in the U. S. A. «Advancement Sci.», 1967, 23, № 118, 619—624 (англ.)

Описывается структура информационной сети США. Называются организации и учреждения, вовлеченные в процесс обмена научной информацией. Характеризуется каждый из трех основных компонентов этой сети: 1) профессиональные общества, 2) научно-исследовательские организации и 3) издательства университетов и торговых фирм. Определяются виды информационного обслуживания, предлагаемые этими организациями, намечаются перспективы развития информационной службы США. О. В.

68.5.361. Планирование национальной системы информации. Knox William T. Planning for national information networks. «2nd Nat. Sympos. Engng Inform. Coordinat. Engng Inform. Syst., New York, N. Y., 1965». New York, N. Y., Engrs Joint Council, 1966, 5—8. Discuss., 48—54 (англ.)

Приводится структура федерального Комитета по научной и технической информации (США), его цели и основные направления деятельности. Рассматривается правительственная программа создания национальной системы научной и технической информации. Отмечаются усилия Комитета в области координации деятельности федеральных и частных информационных служб, а также возможности широкого использования систем передачи данных по проводным линиям связи. Указывается на необходимость организации специализированных национальных библиотек, комплектующих литературу в строго определенной области знания. Отмечается, что наряду с центрами документации такого типа следует создать сеть информационных центров, ориентированных на сугубо информационную обработку документации, (реферирование, анализ и оценка информации, разработка методов индексирования и систем поиска). Подчеркивается, что создание эффективной национальной системы информации, основанной на применении ЭВМ, во многом сдерживается отсутствием достаточных финансовых средств и хорошо подготовленных кадров. Табл. 1. А. Юрке

69.8.233. Современное состояние «информационной промышленности» США. Хираяма Рёдзабуро. The situation and prospect of information industry in U.S.A. «Дзёхо канри, Zyoho kanri, Inform. and Docum.», 1968, 11, № 9, 503—507 (японск.)

Приводится отчет группы японских специалистов о поезде в США с целью ознакомления с постановкой и состоянием «информационной промышленности» страны

69.4.235 *The evolving U. S. National Scientific and Technical Information System*.— Simpson, Gustavus S., Jr. «Battelle Techn. Rev.», 1968, *17*, No. 5—6, 21—28. (In English).

The most probable shapes of the U. S. information system in the next decade are discussed. The influence of the Federal Government of the progress of this system is analysed. The author contends that both the Federal and private-owned information systems will eventually reach a uniform standard. Summary

68.5.362 *National information issues and trends*.— Hammer, Donald P. «Annual Rev. Inform. Sci. and Technol. Vol. 2». New York — London — Sydney, Interscience, 1967, 385—417. (In English).

Publications on various aspects of information activities, which appeared in the USA in 1966, are reviewed. The review falls into the following major sections: definition of the fundamentals of information activity, 'information explosion'; nation-wide information systems, their relations and tasks; use of artificial satellites for information purposes; official information activity; intrastate communication and information exchange systems; copyright legislation and problems associated with use of literary sources. 90 refs. L. Popilova

68.10.351. *Information analysis centers as a source for information and data*.— Darby, Ralph L. «Spec. Libr.», 1968, *59*, No. 2, 91—97. (In English).

The main functions of specialized information analysis centres (USA) are, in addition to information dissemination and retrieval, the producing of qualitatively new information from available data. The distinctive features of the Information Analysis Center, as compared with libraries and traditional information centres, are mentioned. The activities of specialized information analysis centres are exemplified by the Defense Metals Information Center and some others. Guides to some other information analysis centres are listed. 2 ills., 1 tab., 30 refs. A. Yurko

UDC 061:002.5(73)

68.2.313. *Technical Information Exchange provides ADP support*. «Nat. Bur. Standards Techn. News Bull.», 1967, 51, No. 8, 166—167. (In English).

Consideration is given to the tasks and functions of the Technical Information Exchange set up in 1966 under the National Bureau of Standards Center for Computer Sciences and Technology (USA). A detailed description is given of its following activities: information processing reference service; reporting the state-of-the-art in information processing; machine preparation of indices; programme and documentation reference service. G. S.

69.11.242. *History of the American Documentation Institute. A sketch*.—Schultz, Claire K.; Garwig, Paul L. «Amer. Docum.», 1969, *20*. No. 2, 152—160. (In English).

Highlights of the history (1937—1967) of the American Documentation Institute are sketched. In 1968, its name changed to American Society for Information Science. 18 refs. R. S.

69.7.171. *The National Translations Center*.— Kip, Charles E. «Spec. Libr.», 1969, *60*, No. 2, 104. (In English).

Since 1953, the National Translations Center (U. S. A.) has supplied more than 100,000 translations to requesters. All of them are indexed. A semi-monthly bulletin, «Translations Register-Index», announces new translations. D. S.

69.4.235. Возникновение в США национальной системы научной и технической информации. Simpson Gustavus S., Jr. The evolving U. S. National Scientific and Technical Information System. «Battelle Techn. Rev.», 1968, 17, № 5—6, 21—28 (англ.)

Рассматриваются наиболее вероятные формы, которые должна принять информационная система США в течение ближайшего десятилетия. Анализируется влияние федерального правительства на процесс развития этой системы и высказывается предположение о том, что в конце концов и федеральные и частные информационные системы придут к единому стандарту. Резюме

68.5.362. Тенденции развития и состояние информационной деятельности в США. Hammer Donald P. National information issues and trends. «Annual Rev. Inform. Sci and Technol. Vol. 2». New York—London—Sydney, Interscience, 1967, 385—417 (англ.)

Дается обзор публикаций по различным вопросам организации информационной деятельности, вышедших в США в 1966 г. Основные разделы обзора: характеристика основ информационной деятельности; проблемы «информационного взрыва» в литературе; информационные системы национального масштаба, их взаимосвязь и задачи; использование искусственных спутников земли для информационных целей; правительственная деятельность в области информации; системы связи и обмена информацией между штатами; закон об авторском праве и проблемы, связанные с информационным использованием литературных источников. Библ. 90 назв.

68.10.351. Центры информационного анализа как источники информации. Darby Ralph L. Information analysis centers as a source for information and data. «Spec. Libr.», 1968, 59, № 2, 91—97 (англ.)

Исследуются и формулируются основные функции специализированных центров информационного анализа США, которые должны не только распространять информацию или осуществлять ее поиск, но и на основе существующей информации создавать качественно новую. Указываются отличия Центра информационного анализа от библиотек и обычных информационных центров. Детально деятельность специализированных центров информационного анализа рассматривается на примере деятельности Центра информации по защитным покрытиям металлов и некоторых других. Приводится перечень справочников-путеводителей о ряде центров информационного анализа. Илл. 2. Табл. 1. Библ. 30 назв. А. Юрко

68.2.314. Бюро обмена технической информацией поддерживает систему автоматической обработки данных. Technical information exchange provides ADP support. «Nat. Bur. Standards Techn. News Bull.», 1967, 51, № 8, 166—167 (англ.)

Рассматриваются задачи и функции Бюро обмена технической информацией, созданного в 1966 г. при Центре вычислительной техники Национального бюро стандартов (США). Подробно освещаются следующие виды его деятельности: справочная служба по обработке информации; издание обзоров и отчетов по вопросам обработки информации; издание обзоров и отчетов по вопросам обработки информации; составление указателей машинным способом; справочная служба по разработке программ, их назначению и возможностям. Г. С.

69.11.242. Американский институт документации (Исторический очерк). Schultz Claire K., Garwig Paul L. History of the American Documentation Institute. A sketch. «Amer. Docum.», 1969, 20, № 2, 152—160 (англ.)

Описывается история создания и деятельность Американского института документации до 1968 г. (в течение 30 лет), когда он был переименован в Американское общество по информации. Библ. 18. (Подробный реферат см. ЭИ «Теория и практика научной информации», 1963, № 16, 52). Р. С.

69.7.171. Национальный центр переводов. Kip Charles E. The National Translations Center. «Spes. Libr.», 1969, 60, № 2, 104 (англ.)

С 1953 г. Национальный центр переводов (США) выдал заказчикам свыше 100 тыс. переводов. Все переводы заиндексированы. В бюллетене «Translations Register Index», издаваемом центром один раз в полмесяца, сообщается о новых переводах. Д. С.

69.4.236. *Development and operation of a specialized technical information and data center (the Cryogenic Data Center).*— Johnson, Victor J. «J. Chem. Docum.», 1968, 8, No. 4, 219—224. (In English).

As a result of explosive progress in physics and cryogenics, the Cryogenics Data Center was set up in 1958 under the National Bureau of Standards of the USA to organize respective world literature in the field and furnish the industry with reliable information. The development of the Centre over the 10-year period of its existence is discussed. Included is the description of the conversion from a manual to an automated bibliographic retrieval system; the development of cataloguing and indexing techniques; the procedures of announcement of the new acquisitions; procedures for selecting and compiling data, and the forms of services to the users. The discussion emphasizes the problems that are typical in facilities of this type and the need to consider standard or generally accepted solutions. 7 ills., 8 refts. Summary

68.10.350. *The state technical services program — an interface with industry.*— Levesque, Robert. «Spec. Libr.», 1968, 59, No. 3, 195—200. (In English).

The activity of the Technical Resources Center at Syracuse University, New York, USA, is aimed at studying and meeting the needs of local businessmen and industrialists for recent scientific and technical information. Co-operation between the Center and professional societies and special libraries facilitates an efficient reference service. The Center's major task is to promote exchange of scientific and technical information with a view of adding to the economic progress in Upstate New York area. Some peculiar features which distinguish the Center from special libraries are outlined. A. Yurko

68.1.237. *Defense Documentation Center.*— Rickman, Ruth B. «Navy Civil Engr», 1967, 8, No. 2, 30—31. (In English).

The Defense Documentation Center for Scientific and Technical Information (USA) serves 3,000 armed services organizations, 500 other Federal agencies and more than 2200 civil establishments. Its collection amounts to 800 thou titles, with annual acquisitions reaching 50 thou. The Center has a staff of 500. They receive requests at the rate of approximately 7 thou per working day. Twice a month the «Technical Abstract Bulletin» appears which covers about 2 thou reports. The users are also provided with demand report bibliographies. 2 ills. G. S.

70.3.328. *Defence Documentation Center development program.*— Powers Joseph M. «Review», 1969, *48*, No. 5, 43, 121, 125. (In English).

This is a description of the activity of the Documentation Centre for the Defence Department, as well as of Federal agencies, their contractors, subcontractors and grantees. R. S.

68.10.352. *The state technical services program at the state level.*— Heintz, H. F. «Spec. Libr.», 1968, *59*, No. 3, 192—194. (In English).

The Connecticut (USA) technical services programme includes a referral system to evaluate the strength of scientific and technical staff in the state and establishing of a centre to study the use of state and private-owned libraries. Preliminary research testified o the necessity and possibility of establishing such a centre. Its major functions include: complete and prompt information on the location of informations sources, access to them, bibliographic searches, centralized control, coordination and dissemination of catalogues. V. L.

69.4.236. Создание и деятельность специализированного центра технической информации и данных. Johnson Victor J. Development and operation of a specialized technical information and data center (the Cryogenic Data Center). «J. Chem. Docum.», 1968, 8, № 4, 219—224 (англ.)

В связи с быстрым развитием физики и техники низких температур при Национальном бюро стандартов США в 1958 г. был создан специализированный центр данных в этой области, в задачи которого входит обработка соответствующей мировой литературы и снабжение промышленности надежной информацией. Обсуждается развитие центра за 10 лет и описывается переход от ручной к автоматической системе библиографического поиска, разработка методов каталогизации и индексирования, система информирования о новых поступлениях, процессы отбора и накопления данных и форма обслуживания потребителей. Обсуждаются типичные для подобных центров проблемы, и отмечается необходимость найти стандартные или общеприемлемые решения. Илл. 7. Библ. 8 назв. Резюме

68.10.350. Государственные технические службы и промышленность. Levesque Robert. The state technical serices program—an interface with industry. «Spec. Libr.», 1968, 59, № 3, 195—200 (англ.)

Описывается деятельность Центра технических ресурсов при Сиракузском университете (шт. Нью-Йорк, США), направленная на выявление и удовлетворение потребностей местных деловых и промышленных кругов в новейшей научной и технической информации. Рассматривается система сотрудничества центра с профессиональными научно-техническими обществами и специальными библиотеками, способствующими организации эффективной справочно-информационной службы. Основное назначение центра — способствовать обмену научной и технической информацией с целью содействия экономическому развитию северной части шт. Нью-Йорк. Излагаются особенности обслуживания потребителей и указываются отличия деятельности центра от деятельности специальных библиотек. А. Юрко

68.1.237. Документационный центр научной и технической информации Министерства обороны США. Rickman Ruth B. Defense Documentation Center. «Navy Civil Engr», 1967, 8, № 2, 30—31 (англ.)

Документационный центр научно-технической информации Министерства обороны США обслуживает 3 тыс. военных организаций, 500 федеральных агентств и более 2200 гражданских учреждений. Фонд его насчитывает 800 тыс. названий, причем ежегодное поступление составляет 50 тыс. ед., штат — 500 чел.; количество запросов — около 7 тыс. в год. Дважды в месяц издается бюллетень «Technical Abstract Bulletin», включающий около 2 тыс. сообщений. По интересующим вопросам потребители получают библиографические отчеты. Илл. 2.

70.3.328(Р—3456). Документационный центр министерства обороны США. Powers Joseph M. Defense Documentation Center development program. «Review», 1969, 48, № 5, 43, 45, 121, 125 (англ.)

Описывается деятельность Документационного центра по обслуживанию информацией министерства обороны, а также федеральных органов и фирм, связанных с ними контрактами или субсидируемых ими. (Подробный реферат см. в ЭИ «Теория и практика научной информации», 1970, № 2, 6). Р. С.

68.10.352. **Программа технического обслуживания в шт. Коннектикут.** Heintz H. F. The state technical services program at the state level. «Spec. Libr.», 1968, 59, № 3, 192—194 (англ.)

Программа технического обслуживания в шт. Коннектикут (США) включает создание справочной службы по определению численности научных и технических кадров штата и центра по использованию государственных и частных библиотек. Предварительные исследования показали необходимость и возможность создания центра. Основные его функции: получение полных и оперативных данных о расположении источников информации, обеспечение доступа к ним, осуществление библиографического поиска, централизованного контроля, а также координация и распространение каталогов. В. Л.

69.9.235. *The Bell Telephone Laboratories technical information service.*— Lowry, W. Kenneth, Kennedy, Robert A. Służby informacji technicznej w Laboratoriach Bell Telephone. «Aktual probl. inform. dokum.», 1969, *14*, No. 1, 1—6. (In Polish).

The network of technical libraries acting as information centres in the Bell Telephone Laboratories (U. S. A.) consists of 20 industrial and technical information groups. This network is highly centralized and mechanized. Though the company's laboratories are dispersed over the U. S. A., the information flow circulates properly due to modern communication facilities. The information staff, techniques, etc. are described. Prospects of computer applications are outlined. W. Sokolowska (PPR)

69.3.237. *The technical information facility of Koppers' research center.*— Meckly, Eugene P. «J. Chem. Docum.», 1968, *8*, No. 2, 66—69. (In English).

The sequence of events that led to the creation of Koppers' information facility is described. It is designed for information processing at the Koppers' Co Research Center (U. S. A.). Its present activities are based on IRS and microfiche. 5 ills., 2 refs. Summary

69.11.243. *Report of a business tour to the USA.*— Canyn, M. V. de. Compte rendu de mission aux états-unis. «Colloq. internat. inform. docum. chemins fer. Paris. 1968». Bruxelles, s. a., 119—124. (In French).

Reported are the results of a visit to the United States (June 24—July 3, 1968) of delegates from the International Bureau of Railway Transport Documentation of the International Railways Union, to see latest progress in information services. A brief description is provided of the largest libraries and branch information centres under the U. S. Committee for Scientific and Technical Information (COSATI) engaged in collecting, storing and disseminating information related to scientific and technological researches, both current and planned for the future. Data are cited on developments, technical reports and other documents, and of IRS in use, etc.

69.6.222. *Coordination of information services.*— Baker, Dale, B., O'Dette, Ralph E., Tate, Fred A. «Proc. Amer. Soc. Inform. Sci. Annual Meet. Vol. 5». New York, Greenwood Publ. Corp., 1968, 15—19. (In English).

The continuous growth of chemical information and its increasing complicacy call for the elaboration of the existing information services. In this context the coordination of the efforts of chemical information centres in processing, indexing, abstracting and selective dissemination of information may be a solution. Examples are cited of such a cooperation. L. P.

69.9.235. Служба технической информации в лабораториях фирмы. Bell Telephone. Lowry W. Kenneth, Kennedy Robert A. Służby informacji technicznej w Laboratoriach Bell Telephone. «Aktual probl. inform. dokum.», 1969, 14, № 1, 1—6 (польск.)

Сеть технических библиотек, выполняющих роль информационных центров в лабораториях фирмы Bell Telephone (США), состоит из 20 групп промышленно-технической информации. Эта сеть в значительной степени централизована и механизирована. Лаборатории фирмы находятся в различных городах США, однако благодаря современным средствам связи поток информации циркулирует очень четко. Дана характеристика информационных кадров, методов работы и др. Указываются возможности применения вычислительной техники. W. Sokolowska (ППР)

69.3.237. Оборудование для обработки технической информации в научно-исследовательском центре. Meckly Eugene P. The technical information facility of Koppers' research center. «J. Chem. Docum.», 1968, 8, № 2, 66—69 (англ.)

Описываются обстоятельства создания комплекса помещений и оборудования для обработки информации в научно-исследовательском центре фирмы Koppers Co. (США) и его деятельность в настоящее время. В основу работы положены ИПС и оборудование для МФ. Илл. 5. Библ. 2 назв. Резюме

69.11.243. Отчет о командировке в США. Canyn M. V. de. Compte rendu de mission aux états-unis. «Colloq. internat. inform. docum. chemins fer. Paris, 1968». Bruxelles, s. a., 119—124 (франц.)

Сообщается о результатах поездки представителей Международного бюро железнодорожной документации Международного Союза железных дорог в США (24 июня—3 июля 1968 г.) с целью ознакомления с последними достижениями информационных служб. Кратко описываются крупнейшие библиотеки и отраслевые информационные центры, подчиненные Комитету по научной и технической информации США (COSATI), которые занимаются проблемами сбора, хранения и распространения информации о проводящихся и планируемых научных и технических разработках. Приведены сведения о зарегистрированных разработках, технических отчетах и другой документации, а также об используемых ИПС и др. Е. Паршина

✓ 69.6.222. **[Координация деятельности информационных служб США в области химии].** Baker Dale B., O'Dette Ralph E., Tate Fred A. Coordination of information services. «Proc. Amer. Soc. Inform. Sci Annual Meet. Vol. 5». New York, Greenwood Publ. Corp., 1968, 15—19 (англ.)

Непрерывный рост объема информации по химии и усложнение тематики заставляют искать новые пути организации и совершенствования информационного обслуживания. Одним из таких путей является координация работы информационных центров в области химии по обработке, индексированию, аннотированию, избирательному распространению информации. Приводятся примеры сотрудничества различных служб в этих вопросах. Л. П.

LATIN AMERICA

ARGENTINA

69.6.227. *National Council for scientific and technical investigations.*— Memoria. Consejo nacional de investigaciones cientificas y tecnicas, 1° de febrero 1965—31 de enero de 1966. Buenos Aires, Argentina, 1967, 189 p., il. (In Spanish).

The activities of an information centre of the National Council for Scientific and Technical Investigations (Argentina) are reported for the period between February 1, 1965 and January 31, 1966. Founded in 1964, the Centre has a duplication service, translations department, general catalogue comprising 32,000 cards. The system of the Centre's internal and external links is described. Its publications arriving during 1965 are listed. E. P.

68.7.316. *Technical information for industry.*— Mestorino—Bachofen, E. B. «33rd Conf. FID Internat. Congr. Docum., Tokyo, 1967. Abstrs». S. l., s. a., 6. (In English).

The types of work and services of the Research Centre for Documentation (Argentina) are described.

69.2.227. Национальный совет по научно-техническим исследованиям. Memoria. Consejo nacional de investigaciones cientificas y tecnicas, 1° de febrero. 1965—31 de enero de 1966. Buenos Aires, Argentina, 1967, 189 p., il. (исп.)

Приводится отчет о деятельности информационного центра Национального совета по научно-техническим исследованиям (Аргентина) за период с 1 февраля 1965 г. по 31 января 1966 г. Информационный центр, действующий с 1964 г., имеет службу репродуцирования, отдел переводов, общий каталог на 32 тыс. карточек. Описывается система внутренних и внешних связей центра. Перечислены его издания, вышедшие в течение 1965 г

68.7.316. Техническая информация для промышленности. Mestorino-Bachofen E. B. Technical information for industry. «33rd Conf. FID Internat. Congr. Docum., Tokyo, 1967. Abstrs». S. l., s. a., 6 (англ.)

Описываются виды работ и службы Центра исследований в области документации (Аргентина).

CHILE

68.10.358. *The national centre of information and documentation.*— Johnson de Vodanović, Betty. El centro nacional de información y documentación (CENID) programa del consejo de rectores. «Rev. cons. rectores Univ. chilenas.», 1967, 2, No. 3, 25—29. (In Spanish).

The National Centre of Information and Documentation (Chile) was set up in August 1954 by a decision of the Chilean University Rectors Council. Its major tasks include: information to specialists, coordination for national libraries and technical assistance to such; preparation and publication of catalogues, bibliographies, collections of dissertation theses; translation, microfilming and photo duplication; advices on bibliographic activities, etc. The Centre also studies problems of library organization and classification of information materials. K. Weiss

68.10.358. Национальный центр информации и документации. Johnson de Vodanović Betty. El centro nacional de información y documentación (CENID) programa del consejo de rectores. «Rev. cons. Univ. chilenas», 1967, 2, № 3, 25—29 (исп.)

Национальный центр информации и документа создан в августе 1954 г. по решению Совета ректоров университетов Чили. Основные его задачи: обеспечение специалистов информацией; координация работы национальных библиотек и оказание им технической помощи; подготовка и издание каталогов, библиографических сборников, сборников диссертаций; перевод, МФ и фотокопирование необходимых материалов; проведение консультаций по библиографической работе и др. Центр занимается также изучением вопросов организации библиотек и классификации информационных материалов. К. Вайс

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INDUSTRIAL INFORMATION SERVICES IN THE INDUSTRIALIZED COUNTRIES (OUTSIDE THE COMECON AREA) AND CO-OPERATION BETWEEN SUCH SERVICES AND THEIR COUNTERPARTS IN DEVELOPING COUNTRIES [1]

by

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Organized in co-operation with the Iranian Government

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[1] The views and opinions expressed in this paper are those of the author and do not necessarily reflect the views of the secretariat of UNIDO. This document has been reproduced without formal editing.

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SUMMARY

A study was made of the characteristics of industrial information systems and organizations in industrialized countries, which may serve as a guideline for the establishment of such services in developing countries.

The information needs of developing countries are discussed as well as the infra-structure needed before establishing an information system.

Possible ways of improvement in the cooperation between industrialized and developing countries in the information field are outlined.

I. INTRODUCTION AND GENERAL OUTLINE

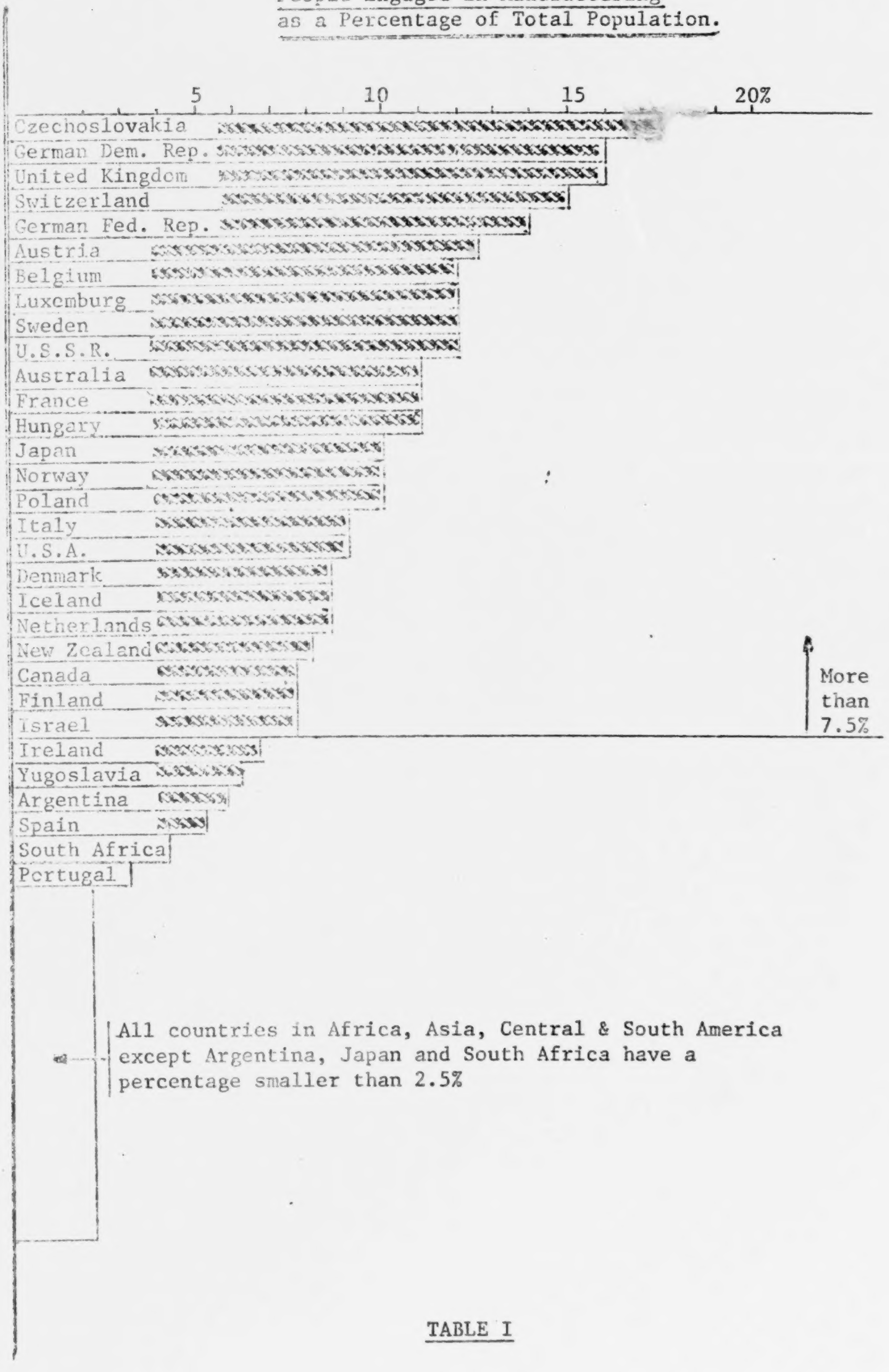
The author of this paper was requested by UNIDO to provide a background paper on industrial information services in industrialized countries (outside the COMECON area) and on possible improvements in cooperation between these services and their counterparts in developing countries. The treatise was to be especially based on the experiences of the International Federation for Documentation (FID).

In studying the organization of information systems or services in developing countries, possible improvements which might be made in such organizations and in looking for ways and means of improving cooperation between industrialized and developing countries in this area, one may benefit from a study of the organization in industrialized countries. A study of this nature takes up the first part of this paper, especially Chapter III.

Developing countries in various stages of industrialization have their own characteristic needs for information, expanded on in Chapters IV and V.

Chapter VI discusses briefly some aspects of possible improvement in cooperation between industrialized and developing countries in the information field.

People Engaged in Manufacturing as a Percentage of Total Population.



All countries in Africa, Asia, Central & South America except Argentina, Japan and South Africa have a percentage smaller than 2.5%

TABLE I

II DEFINITIONS

Before treating the subject, a definition of terms seems appropriate. Terms can usually be defined in more than one way and the definition favoured by the author should be made known to the reader, who may be accustomed to a different definition. This serves to delineate the subject properly.

Industrial Information Services are organizations which provide to industry scientific, technological and economic information on the properties and processing of materials and on new techniques, developments and results of scientific research as they apply to industrial production. Information services for industry may deal with primary (mining, metallurgical, basic raw materials) as well as secondary industry (manufactured products). Industrial information encompasses subjects of a scientific and technical as well as socio-economic nature, the latter in the fields of business, management, financing, productivity, labour etc.

Industrialized countries. It is more difficult to define "industrialized". This obviously is a matter of degree since there is a more or less continuous spectrum, from highly industrialized to not industrialized at all. One consequently will have to draw the line somewhere as has been done in the last paragraph of this section.

Expressing the degree of industrialization as the number of people working in manufacturing as a percentage of the total population, figures range from 17.5% down to less than 0.5%.

In table I we have plotted these percentages for many countries in the world based on figures taken from the Statistical Yearbook 1967 published by the United Nations. It is obvious when studying the sequence of countries obtained that the percentage figures do not tell the complete story and that there are other factors involved. Still one may draw from this graph some picture of the approximate degree of industrialization.

It is noted that all countries in Africa, Asia and South and Central America (with the exception of Argentina, Japan and South Africa) fall in the category of countries which are hardly industrialized, (below 2.5%).

In order to limit the number of countries to be examined we have, quite arbitrarily, taken the cut-off point at 7.5%. This means that, for the purpose of this paper, countries in which more than 7.5% of the population works in manufacturing industry are termed "industrialized".

III ORGANIZATION OF INDUSTRIAL INFORMATION

1. General remarks

In studying the organization of information in many countries, one will find a variety of systems, of types of organization and of services provided.

For convenience sake these differences may be labelled according to certain characteristics, although one will not always find pure forms; very often they will be mixed.

One may distinguish
a. Centralized and decentralized systems
b. Organizations in the public and private sector
c. Libraries, documentation and information services, referral centers, clearinghouses
d. Active and passive services
e. Current awareness versus retrospective search.

a. Centralized and decentralized systems

The centralized system is based on an information centre which administers and coordinates the work of a number of specialized services. This type of system is usually encountered in the COMECON countries.

In the countries outside the COMECON area one often finds a central or national information service which may be the officially designated centre having established ties without having direct responsibility for a number of specialized services. Most often the organization of this type is an autonomous documentation or information service. Sometimes it is an information service which forms part of a productivity organization, such as exist in Austria, France, the German Federal Republic, Luxemburg and Italy. In a few instances the information services are part of a research organization, for instance in Australia and Canada.

Some of the larger countries have no central information service, on the contrary they work with a decentralized system of specialized services. This, for example, is the case in France, Germany, Sweden, the U.K. and the U.S.A. In a few other countries locating the many specialized services is aided by a referral service, which registers the various sources and refers prospective users to them. Typical examples of this situation may be found in the U.K. and the U.S.A.

b. Public and private sector

Organizations may operate in the public sector, such as in the case of governmental services. On the other hand the organizations may belong to the private sector and be financed by membership fees, proceeds of services, grants, etc. It is rather rare however, with the exception of the situation in the U.S.A., that private information services do not receive part of their income from public funds.

c. Libraries, documentation and information services, etc.

The industrial information service proper is not by any means the only type of organization providing information to the industrial user. Libraries have historically been the collectors of printed knowledge and many of them have established special services for the industrial sector, in particular the libraries connected to universities for the applied sciences, technological institutes, research organizations, etc.

With respect to documentation and information services some people make a definite distinction between documentation services and information services. We do not wish to enter into this controversy here, for the sake of brevity, and will often combine the terms. For our purposes we will consider these services equivalent in that the goal of either organization is service to industry.

A referral centre is an organization which is not engaged in information work, but which registers sources of specialized information for referral to enquirers.

A clearinghouse is a centre which passes on demands for information to specialized sources. In this respect it is more or less equivalent to a referral centre. "The Clearinghouse" in the U.S.A. is not a referral centre but a dissemination service for report literature.

d. Active and passive services

One may distinguish between active and passive information work. The active services deal with unsolicited information which is sent to prospective users, hoping that it may be applied. The passive services deal with information provided upon request. A service may of course be of the mixed type and engaged in the two types of work.

e. Current awareness, and retrospective search

Since the times of the computer one often makes a special distinction, namely between current awareness, and retrospective searching. Although new names, these are fundamentally old concepts which are more or less synonymous with active and passive.

The current awareness type of information is sent out by a service without being solicited. It keeps the user informed about new findings such as books, reports, articles, abstracts, reviews, patents, etc. This may take the form of Fast Announcements, News Briefs or Review Journals.

Retrospective searching on the other hand refers to specific requests for information which may be obtained by searching the existing literature. The characteristics of these two types of information: active-current awareness and passive-retrospective call for somewhat different treatment, under both computerized and non-computerized systems.

Assuming a non-computerized system

For an active-current awareness type of service one needs a number of experts in various fields who will scan the literature for important new inventions or developments which will then be announced to prospective users.

In a passive service doing retrospective work one again needs a team of information experts who will treat incoming enquiries by searching the literature for answers to the query. The answers may be given in the form of bibliographies without further comments. When technical experts are available, the information found may be evaluated and presented in report form. An intermediate treatment would be the provision of annotated references.

The number of people needed depends very much on the treatment which one gives to the documents, e.g. whether translation is involved, whether the information has to be abstracted, or whether critical review is carried out.

Assuming a computerized system

Treatment of the two types of information takes a somewhat different aspect if a computer is available. At present a computer is more practical and economic for providing current awareness type information than for retrospective searching.

For current awareness work, magnetic tapes containing new developments, suitably coded, are available from various organizations for sale or rental. Often the treatment given amounts to matching the codes with "interest profiles" of prospective users, similarly coded. In this way one selects from the numerous items those of interest to the user. This system is often called SDI, Selective Dissemination of Information.

In retrospective searching the problem is, that although one basically uses the same approach as for the current awareness system, one needs the various items of information in coded form on magnetic tape before one can match with the coded description of the enquiry. These magnetic tapes simply do not exist for the years prior to 1966-68, with a very few exceptions (in the biological and medical fields). Retrospective searching moreover takes more computer time than current awareness and consequently is expensive.

2. Description of information systems in individual countries [1,2,3]

We shall now give a description of the systems in use in a number of industrialized countries as defined earlier. This should be qualified in that two areas have been omitted from the description, the defence sector and the field of atomic energy and its applications. Information in the military sector is largely classified and thus not available for free exchange between countries.

The same holds for much of the information in the field of nuclear energy. Where this information is freely available it is being handled by an international information network sponsored by the International Atomic Energy Agency (IAEA). The exchange system is called INIS, International Nuclear Information System.

Another area which has not been treated is the one concerning patents. Patents undoubtedly form a very important source of technical information. However the information services in most countries do not perform actual patent searches, because of the specialized nature and the expense of this type of work.

Since the COMECON countries will be reported on separately, we shall not dwell upon the organization in countries such as Czechoslovakia, German Democratic Republic, Hungary, Poland and the U.S.S.R., countries which all figure high on the list of industrialized nations. We will only mention here that the systems in the COMECON countries in general are based on an intricate network of services specialized according to industrial branches, as well as a network of regional centers, all administered by a central organization which coordinates the overall activities.

Austria

Austria has a number of specialized services giving information to industry, as well as the library of the Technical University in Vienna. The main organization in Austria serving industry is the Austrian Productivity Center (in German: Oesterreichisches Produktivitats Zentrum, O.P.Z.), in Vienna. The centre which is primarily a productivity organization and sponsors training courses, lectures and seminars, offers a "Question and Answer" type technical information service.

Australia

Australia is in a peculiar position, possibly because of its vast dimensions, which caused the development of an excellent library system spread out over the country. The task of providing industrial information is mainly executed by these libraries as well as by a great

number of public and private research associations.
The CSIRO, Commonwealth Scientific and Industrial Research Organization is emphasizing agricultural research and for that reason, although it has a documentation centre, may be somewhat weak on information for industry.
International Technical Services a non profit organization, was recently formed for providing technical and economic services to industry and other sectors. It is sponsored by Battelle Memorial Institute, Columbus, Ohio, U.S.A.

Belgium

Until the establishment of the National Centre for Scientific and Technical Documentation, Belgium only had a productivity organization which took care of some forms of technical information.
The Belgian Office for Increase in Productivity (Office belge pour l'Accroissement de la Productivité) in Brussels is mainly engaged in organizing seminars and training courses in the management field, but it will answer technical enquiries.

The National Centre for Scientific and Technical Documentation (Centre national de Documentation scientifique et technique, CNDST) in Brussels established in 1964 is linked with the Royal Library Albert I. It is concerned with documentation questions and information in the natural sciences and technology.

Canada

Canada, not unlike Australia, is a country of vast dimensions and the information system is geared to serving industries which are far apart. The country has little in the way of specialized services in the private sector. Of the various governmental departments (ministries) a number provide information for industry. The Department of Energy, Mines and Resources provides assistance to the primary and mining industry, the Department of Forestry to the pulp, paper and wood industry and the Department of Industry, Trade and Commerce to industry in general, especially in the planning stage and with respect to economic matters.
The Technical Information Service (TIS) of the National Research Council of Canada is the central information service for manufacturing industry. It maintains field services in the 10 provinces. TIS has a technical inquiry service dealing strictly with technical matters and an industrial engineering section dealing with management problems. Both sections have their field officers divided over the country for direct contact with the customers. The third section of TIS operates a computerized current awareness system based on items selected from the published literature, books, reports, periodic literature, etc. All TIS services are free.

The National Science Library of the National Research Council provides conventional documentation and library services and operates a computerized SDI system (Selective Dissemination of Information) for a fee. The latter is mainly for scientists in the natural sciences but is being extended to industrial users.

Denmark

Denmark has a number of specialized services for industry. Of the more general ones, there are two, the Danish Center for Documentation and the Danish Central Technical Library which provide documentation and library services. The latter organization operates an SDI (Selective Dissemination of Information) system.

The Danish Technical Information Service (in Danish, Dansk Teknisk Oplysningstjeneste, DTO) in Copenhagen provides technical and economic information to industry. Its services are generally free. It maintains an active dissemination service of selected material as well as a question and answer service. DTO operates with a team of experts in Headquarters which evaluate the available information and it maintains a field service. Liberal use is made of the services of outside consultants. Seminars and training courses in technical and administrative subjects are provided for the staff of enterprises. DTO stresses the value of good communication between provider and user of information and specializes in lectures, seminars and training courses, etc., for management in order to develop efficient flow of information within the enterprise.

Finland

The main organization for industrial information in the country is the Technical Information Service of the State Institute for Technical Research in Helsinki.

The service provides documentation and translating services and actively disseminates information.

France

As mentioned in the preface France is a country which has a typically decentralized information system, based on a great number of specialized information services which are often connected with research associations. A number of universities, through extension services, maintain close contact with and provide services to industry.

We wish to single out and describe the activities of a few of the major organizations which provide very important services for industry without making the claim of being central information services.

The Documentation Centre of the National Centre for Scientific Research (in French: Centre national de la Recherche scientifique, CNRS) in Paris provides documentation and bibliographic services. CNRS publishes the well known abstract journal "Bulletin Signalétique", dealing with scientific and technical fields.

The French Association for Increase in Productivity (Association française pour l'Accroissement de la Productivité, AFAP) in Paris deals mainly with economic and managerial problems but it has a section for technical information.

The National Association for Technical Research (Association nationale de la Recherche technique, ANRT) is an association of public and private organizations for applied research in various fields. The association maintains documentation and library services for its members.

German Federal Republic

The German Federal Republic is another example of a country with a decentralized information system based upon approximately 500 different documentation institutes. There is no national center.

The activities of the various components in the German information network are promoted and coordinated by the Institute for Documentation (Institut fur Dokumentationswesen, IDW) in Frankfurt am Main.

Of the various important organizations which take a part in the overall system, we may mention the German Society for Documentation (Deutsche Gesellschaft fur Dokumentation), promotion and training; German Standardization Committee (Deutsche Normen Ausschuss), standardization, classification and terminology; Central Institute for Mechanized Documentation (Zentral Institut fur Maschinelle Dokumentation), development of computerized and other mechanized systems.

The German Productivity Council (Rationalisierungs - Kuratorium der Deutschen Wirtschaft, RKW) is a productivity organization dealing mainly with economic and management problems. It operates an information service and provides assistance on technical problems. It has a field service operating in the various states using consultants locally.

Iceland

This country has an Industrial Productivity Centre in Reykjavik which apart from the usual economic and managerial problems deals with documentation. It maintains abstracting and translating services and actively disseminates information.

Israel

Israel has, apart from a number of organizations dealing with specialized fields such as agricultural industry, food industry, fibres and forest products and radioactive products, one central service which deals with general information for industry.

The Center for Scientific and Technological Information in Tel-Aviv, supplies consulting services, maintains a question and answer service and gives training in documentation techniques. A field service is being maintained. The Center disseminates abstracts in a number of selected fields.

Italy

This country has a number of specialized information services which operate in a decentralized system. There is presently only one organization providing general information, the Italian National Committee for Productivity (Comitato Nazionale per la Produttivita, CNP), in Rome. Its objectives are the spreading of knowledge of productivity methods and techniques in the fields of business management and industrial production. CNP maintains an information service for technical and commercial information.

Japan

Japan has services for industry at three levels. For assistance to small industry, approximately 300 institutes exist, while there is a governmental Smaller Enterprise Agency offering consultative services through consultants in the field.

At a higher level Japan has the Japan Information Centre for Science and Technology, JICST in Tokyo which is the national information centre. The centre provides translating and abstracting services and publishes "Current Bibliography" an abstract journal. JICST actively disseminates information and performs literature searches.

At a more scientific level one may mention the National Diet Library, comparable in function to the Library of Congress in the U.S.A. The National Diet Library provides the user with scientific material, aided by 10 regional centres.

Luxemburg

Luxemburg, the smallest of the Benelux countries has a productivity organization, the Luxemburg Office for Increase in Productivity (Office Luxembourgeois pour l'Accroissement de la Productivité, OLAP) in Luxemburg. OLAP operates a technical information service, apart from carrying out the usual functions of a productivity organization.

Netherlands

This country has a large number of specialized centers but it does not have a central information service. The main function of

providing information for industry is divided between three organizations.
The Central Organization for Applied Research (in Dutch, Centrale Organisatie voor Toegepast Natuurwetenschappelyk Onderzoek, TNO) in The Hague is a non profit research organization which in various specialized fields maintains information services connected with its research laboratories for contact with industry.
The Netherlands Institute for Information, Documentation and Filing, (NIDER) in The Hague is a private organization which has a literature and a patent searching service. NIDER promotes the easy flow of information by giving training courses for documentalists and organizing documentation in enterprises.
The Government Technical Consulting Service (Ryksnyverheidsdienst, RND) in The Hague is a consulting service for small and medium sized industry, which also maintains a technical information service. RND operates through a network of field offices.

New Zealand

The Department of Scientific and Industrial Research used to have a Technical Information Service which presently is not operational. The information system in this country is being reorganized.

Norway

Norway has a number of specialized sources of information. furthermore it has a central information service called the Norwegian Industries Development Association (in Norwegian, Studieselskapet for Norsk Industry, SNI) in Oslo. It is a non profit organization financed by industry and from the proceeds of services. SNI maintains a literature searching service. It specializes however in active dissemination of information by publishing a current awareness journal Ajour Teknisk Informasjon and an abstract bulletin divided into 20 categories, Artikkel - Indeks.

Sweden

This is another example of a country with a decentralized system of information for industry provided by a variety of non-governmental agencies, such as trade and research associations, university research laboratories and technical societies.

With the many agencies in existence the need was felt for a clearinghouse for scientific and technical information which is provided since a few years by the
Information Secretariat of the Royal Swedish Academy of Engineering Sciences in Stockholm. The Secretariat actively disseminates information in the form of a "current index" and maintains a literature searching service.

Switzerland

Switzerland has a number of specialized services, but no central organization. There are a number of excellent libraries, one of which, the Library of the Swiss Federal Institute of Technology in Zurich, is the unofficial centre for scientific and technological information.

United Kingdom

The U.K. has a very well developed system of information for industry, working on a decentralized basis. It does not have a national information centre.

The overall coordination and promotion of the use of information in natural and social sciences and technology is the task of the Office for Scientific and Technical Information (OSTI) of the Department of Education and Science.

The specialized services in the U.K. are mostly of a private nature although usually subsidized to varying degrees by government.

Firstly there is the system of industrial research associations, specialized according to technical field. These associations have their information services which supply information to members as well as non members. They usually have field officers visiting industry.

Government subsidy to the research associations is handled by the Ministry of Technology (Mintech). It maintains a referral service for directing enquiries to the specialized sources of information. The Ministry furthermore maintains a system of industrial liaison officers, located throughout the country at technical colleges and advanced colleges of technology. The task of the liaison officers is promotion of use of scientific and technical information.

Secondly one should mention the U.K. library system, which is well developed. In various areas public libraries have combined their efforts to give special extramural services to industry.

The National Lending Library for Science and Technology in Boston Spa is the central depository of literature for the practicing scientist and technologist. It operates via local libraries and organizations, rather than directly to the user.

The British Productivity Council through a large number of local committees and associations is active in the field of increasing productivity by arranging meetings, seminars and group visits in the fields of business management and industrial engineering.

Aslib in London, a private association is well known for its activities in training documentalists and providing consulting services, as well as carrying out research in documentation and information science. It operates a referral service for technical enquiries.

The following private organizations and professional associations should be mentioned as very active in information work, the Commonwealth Agricultural Bureaux, The Chemical Society and the Institute of Electrical Engineers.

U.S.A.

Understanding the information network of the U.S.A. is difficult because of the great number of information sources, and the existence of many types of organizations which are active in dissemination of information. We are dealing in the U.S.A. with a decentralized system which can be broadly divided in a federal (governmental) and a non-governmental part. In describing the various organizations we are excluding agricultural, atomic energy and medical fields as well as the defence sector.

Among the federal services which deal with industrial information we wish to emphasize the following:

COSATI, the Committee on Scientific and Technical Information is responsible for studying the needs of and advising on the activities of the various government agencies. The recommendations are executed by the Office of Science and Technology, OST, part of the Executive Office of the President.

The Library of Congress is the largest and most important library. It does not provide specific information but maintains a referral service, the National Referral Center for Science and Technology, which identifies and catalogues scientific and technical information sources.

The Government Printing Office prints and announces all government publications and distributes copies to depository libraries.

The Clearinghouse for Federal Scientific and Technical Information (CFSTI) in Springfield, Virginia has the task of announcing and disseminating all government unclassified reports. This is a major task since the publication of results of applied research and development in report form takes on enormous proportions in the U.S.A. due to the system of government sponsored R & D assignments.

NASA, the National Aeronautics and Space Administration, has a large information organization and produces two abstract journals, STAR, Scientific and Technical Aerospace Reports and IAA, International Aerospace Abstract.

The Office of State Technical Services operates state and interstate programs to "place the findings of science usefully in the hands of enterprise". This is done at the local and regional level, usually through universities and colleges.

In the private sector a committee was set up, similar to COSATI in the federal sector, namely SATCOM, Committee on Scientific and Technical Communication. The committee has the task to express the views of scientists and engineers and make it possible to exchange ideas with others in the non-federal sector.

In the private sector there are a number of trade associations, as well as professional societies engaged in the dissemination of information, mainly of a secondary nature. Among the trade associations we mention the American Petroleum Institute, the Institute of Paper Chemistry, the Institute of Textile Technology, the Copper Development Association and others specializing in various metals. There are several others. All these organizations publish specialized abstract journals or digests. Well known abstracts services provided by professional societies are: Chemical Abstracts Service, Engineering Index, Metals Abstracts and International Aerospace Abstracts.

An increasing number of commercial enterprises perform services such as the Institute for Scientific Information, ISI. The enterprises have their own association, Information Industry Association.

Many of the universities provide consulting services for industry. Some university and public libraries have formed geographical or discipline oriented networks. Most of these provide services for industry, such as John Crerar Library, MIT (Massachusetts Institute of Technology) Library, New York Public Library, University of California Library.

3. The present state of information systems for industry and government responsibilities for the efficiency of such systems.

Present State

A description of the activities of information services in industrialized countries as given in the preceding section III .2 cannot very well express the one most important fact, the state of flux in which most systems are. The information process is presently a most dynamic one, changing from the classical "manual" system, through more or less mechanized to the computerized system.

In describing what kind of service the various organizations give, we have done just that. However in many cases one should have added that the organizations are experimenting with mechanized systems of various kinds. Personnel closely connected with this type of development work will know that generally speaking difficult, time-consuming and expensive projects are involved and that computerized systems for sufficiently efficient retrieval of information are still a thing of the (near?) future.

It is therefore not surprising that in most countries the government is stepping in, in the realization that strong governmental support is needed for assisting the expensive projects carried out by various organizations.

Governmental Responsibilities

While individual governments have had committees to study the need for efficient information systems in connection with the economical development of the country it has been especially the OECD, Organization for Economic Cooperation and Development which organized high level meetings on the subject over the last few years.

The OECD countries have recognized that the systematic organization and exploitation of scientific and technical knowledge are vital to the nations' prosperity and that only governments are effectively in a position to plan and finance the attainment of these objectives. The OECD recommended that the individual governments would formulate information policies as part of their overall science policies and, more important, take pertinent action.[4]

Similar intergovernmental activities are being pursued in other geographical areas for instance by the Asia and Pacific Council.

IV. DEVELOPING COUNTRIES

1. Information needs as to discipline

The author is of the opinion that the information needs of the developing countries are basically the same as those of "developed" countries and that differences only exist in degree. For instance all countries need agricultural, economic, geological, medical, nutritional, political, technical and veterinary information, to mention the most important ones.

Since it was decided that this paper should restrict itself to industrial information one should try to describe what might come under that term. When looking at the various disciplines mentioned in the previous paragraph one will see that hardly any disciplines will be completely excluded, many have fringe areas of interest. For instance pure agriculture is excluded, but not agricultural equipment and machinery, fertilizer, pesticide and insecticide manufacture. Pure geology again does not apply but mineralogy has industrial connections in the mining field. Pure medicine is not directly industrial but pharmaceutical manufacturing is; so is industrial hygiene. Nutrition is industrial with respect to the food industry.

Whether economy should be included is a matter of contention. In the past many organizations tended to treat technology and economics separately because of the different educational backgrounds needed for the two disciplines. Nowadays, there is a tendency to include economics in industrial information because of the awareness that technology and economics are interwoven to the extent that one cannot treat technology without looking at economic consequences. In the industrial enterprise obviously many subjects are of importance which normally come under economics such as accounting, financing, marketing, and managerial activities such as scheduling, planning, personnel and labour relations, etc. etc.

2. Information needs as to organizational form

In a previous chapter we have described the information systems and organizations in industrialized countries and one may wonder what system or type of organization would be most suitable for a particular developing country.

It is obviously not possible to give an answer to this question in a general paper such as the present.

A study of existing information systems shows that there is a variety depending on factors such as geographical extension of the country, politico-economic structure, amount of information handled, budget, etc. For all these reasons it is only possible to advise on a system after considering all variables for a given country.

3. Information needs with respect to degree of industrialization

A few words should be said in connection with the kind of information which is needed for the different stages of industrialization in a developing country.

Establishing a new industry

Before setting up a new industry, studies have to be made regarding availability of raw materials, energy, labour, transport facilities, market potential, etc., in general called feasibility studies. Further studies involve financing, patent rights, actual technology transfer, etc.

The information needed is to be collected in the developing country and may have to be transferred to the industrialized country. Usually the channels for transfer will fall outside the ordinary ones for exchange of classical scientific and technical information.

Running an industry

Once an industry is established it is important to maintain the installations and keep up with competition by constant improvement. It is in this area as well as in research and development, R & D that most of the classical scientific and technical information is found. Of course this applies to newly established as well as existing industries in the country.

Research and Development

It is generally accepted that countries, in order to keep up with world competition, need well developed R & D establishments and many of the developing countries are in the process of developing such organizations. Where these facilities have not been developed yet, the countries will have to rely on information from industrialized countries. Obviously in order to make use of the results of R & D one needs organizations which can handle and use the data. This calls for local information centers.

V. DEVELOPING COUNTRIES. INFRA-STRUCTURE

The development of an information system in a developing country not only should deal with the information system itself but should give due consideration to development of an infra-structure. It is not possible to maintain information facilities in a country without having developed 1) education at the university as well as at the technical school level, 2) libraries, in particular in the natural sciences and technology.

Although not immediately needed one will want to develop basic and/or applied research facilities.

Basic needs before implementing new information system

1. A depository is needed for a basic number of directories, text and handbooks and periodicals in the scientific and technical fields. This usually takes the form of a library attached to a university or to an information service itself. If a library is too costly one may investigate the feasibility of establishing a regional library thus avoiding duplication of the basic stock of books and periodicals.

The idea of a world data bank accessible through a computer system by the various countries seems the ideal solution, but realization of this goal is still far away.

2. The training of personnel takes from 1 - 5 years depending on academic degree and should therefore be premeditated. The need for

trained personnel varies according to the system used, mechanized or non mechanized. In a computerized system one needs electronic technicians, programmers, operators and computer experts at the university level.

It cannot be sufficiently emphasized that a computerized system cannot just be purchased and installed. Experience shows that the practical difficulties in running a computer call for the constant presence of computer experts, including maintenance and repairmen.

For a conventional system one needs documentalists and information specialists usually at university level and trained library personnel at various levels.

3. An important part of running an information system satisfactorily, consists of training the user. This is true in industrialized countries, but it applies even more to developing countries. In conventional as well as computerized systems it has been found that frequent communication between the service and the user is necessary for proper understanding. This training includes training of the management in methods of establishing an efficient flow of information within the enterprise, so that the user will be reached properly.

VI. COOPERATION BETWEEN DEVELOPING AND INDUSTRIALIZED COUNTRIES

The Tehran seminar will examine ways and means of improving the effectiveness of industrial information services in ECAFE and ECA regions including possibilities of cooperation between the services in industrialized and developing countries.

It would be highly precarious and presumptious to anticipate the results of the discussions with respect to the very complex problems in question. The author consequently does not venture to delve too deeply in the problem of finding solutions, but will only discuss possible action in the light of the experiences of FID and its Committees "Developing Countries" and "Information for Industry".

The world is at present looking towards a computerized treatment of many problems in cases where the classical non-mechanized approach has become too time consuming because of sheer volume, or insoluble because of complexity.

The same is true for storage of data and documents and their retrieval. ICSU/UNESCO are in the process of developing a worldwide information system (UNISIST).[5] This is a project of tremendous scope and it should not be concealed that an enormous amount of work, of a technical nature as well as in the fields of classification and semantics, will have to be carried out before the system will become operational. It seems not unrealistic to think in terms of a decade.

This means that this worldwide computerized information system will not help us right now. Consequently, in the author's opinion, one cannot do better than look at the classical approach in information transfer for the time being. Of course, we have to keep in mind that we are in a transition stage and that our approaches will constantly have to be changed, and updated as new developments become practicable.

The approach taken by UNIDO is transitional. It acts presently as a clearinghouse for bringing the user of information in contact with the source. At the same time it keeps files on technical experts, equipment suppliers, etc. All these activities may at any time be made fully computerized.

Participation in the transfer of information

If one takes a look at the participation of industrial information services of industrialized countries in the transfer of information one will notice that participation is by no means universal, not multilateral and often based on historical ties between certain industrialized and developing countries. The latter, mostly bilateral, type of transfer is natural but it is certainly not in the interest of those developing countries which have severed historical ties for political or economic reasons.

With the unevenly distributed flow of information which could result in the long run it would seem that only an intergovernmental agency, such as UNIDO is in a position to handle the requests for information fairly, confidentially and without bias.

Let us now look at the work which the committees of the International Federation for Documentation have done with respect to developing countries.

FID Committee "Developing Countries" (FID/DC) has published certain recommendations with respect to aid to developing countries.[6] The recommendations are in the classical documentation sphere and deal with the need for,

a) establishing national centers, together with reprographic, translation and training facilities

b) close contact between the centres and users of information

c) regional networks, at least in initial stages, in order to share costs and to promote cooperation

d) publishing: directories of organizations dealing with external aid, literature on documentation problems, literature on user studies.

FID Study Committee "Information for Industry" (FID/II) [7] based on its experiences would agree with the principles behind the recommendations and particularly emphasizes the idea of personal contact between the user and provider of information. This may take the form of a field service in which the field officers act as an extension of the information service. [8]

The member organizations feel that providing information to developing countries can only be effective if the information service working on the problem has full details not only of the problem, but also on the background of the industry and the country. This calls in the first place for a proper, sufficiently detailed formulation of the enquiry.

As a practical way for improving cooperation between industrialized and developing countries it should be mentioned that a number of organizations, members of FID/II, have expressed their willingness to have suitable persons from developing countries work temporarily in their organizations for training purposes. Several member organizations also are prepared to act as sources of information or referral centres for information useful to developing countries. A number of organizations are already involved via UNIDO.

Improvements

The recommendations of FID/DC naturally deal with documentation and related problems, in this case mainly with regard to the initial stages of establishing information services. They hardly deal with possible improvements once the services exist.

It is the author's personal opinion that improvements in cooperation mainly should be sought in the social area, that is through improved human communications. There are no better ways for cooperation than by personal contact and the author feels that these contacts should be increased, even if the financial consequences may cause difficulties. More frequent contacts may be achieved, not only by experts from industrialized countries visiting developing countries, but vice versa by suitable people from the developing countries visiting the industrialized countries for studies, training courses, etc. It is realized that the costs of these travels are high.

Organizing more frequent seminars and similar gatherings is another form of stimulating personal contact, of which the expenses may be comparatively low.

At the governmental level it would seem that certain improvements could be made in persuading the proper authorities in external aid circles that information transfer is part of the overall picture. Often one will find that information centers in industrialized countries do not have the funds for financing assistance to developing countries, and that the organizations, if sympathetic to the idea of providing assistance, will perform the work involved as part of their ordinary operations.

Furthermore it would seem that many information services in industrialized countries, although entirely qualified in the technical sense, do not have the proper background for dealing with or evaluating the special needs of developing countries. Improvement in this area can only be obtained by better cooperation between the agencies dealing with external aid and the regular information services.

The steps to be taken for improving this situation in the industrialized countries should be initiated by the United Nations' agencies at the governmental level.

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